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FIRE ENGINEERING

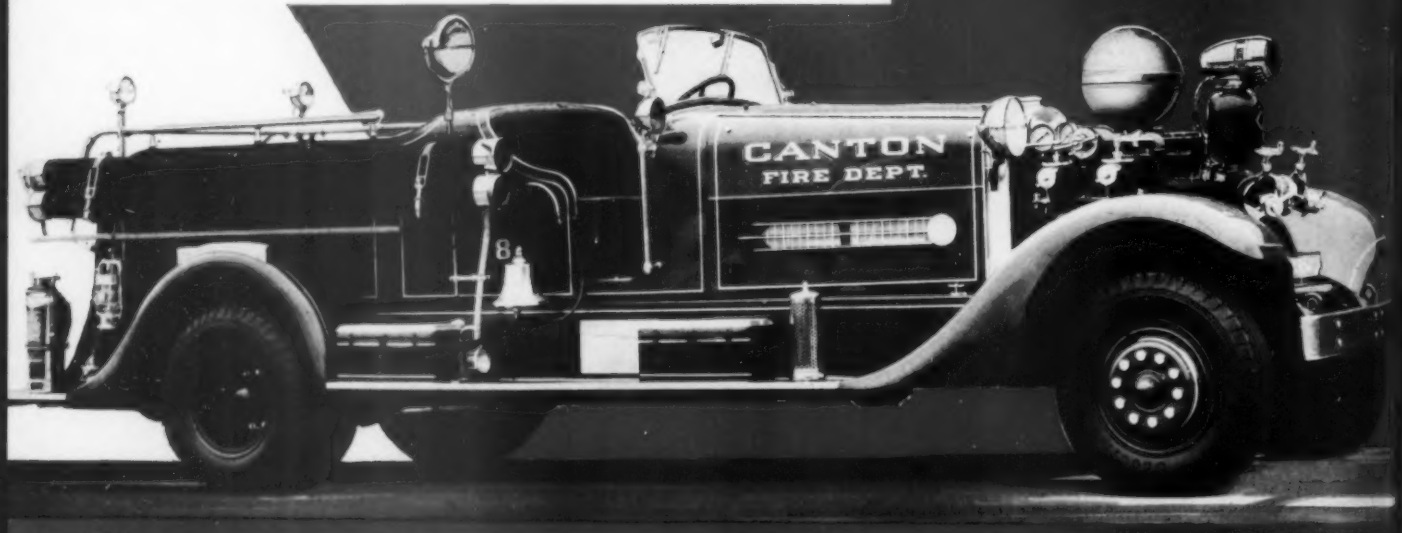
The Journal of the Fire Protection Profession Since 1877

Vol. 90, No. 6 JUNE, 1937 Member A.B.C.-A.B.P.

Firemen from Five Neighboring Villages Joined the Loch Arbour, N. J., Volunteers in an Attempt to Save This Four-Story Hotel

RECORD SMASHING PERFORMANCE!

NO motor pumping engine yet designed can equal the efficiency of AHRENS-FOX PISTON PUMPERS in the quantity of water delivered and the pressures developed for the horse-power expended.



TEST

	MOTOR R.P.M.	PUMP R.P.M.	PUMP PRESSURE	GALLONS PER MINUTE
Rated Capacity . . .	1010	248	120	750
Capacity	1660	408	160	1212 (1)
Pressure	1900	467	450	508 (2)

Suction at draft with 4 ft. lift.

(1) Requirement 750 G.P.M. at 120 lb.
(2) Requirement 250 G.P.M. at 250 lb.

Needless to say, engines met, with abundant reserve, the *official* 12-hour Underwriters' test.

RECORDS like these made by the new 750 gallon capacity Piston Pumpers of the Canton Fire Department are typical of AHRENS-FOX performance . . .

Powered with heavy duty, moderate speed, *six cylinder* motors, AHRENS-FOX Piston Pumpers are super Fire Engines—distinctly in a class by themselves.

AHRENS-FOX QUALITY

THE AHRENS-FOX FIRE ENGINE COMPANY, CINCINNATI, OHIO

AHRENS-FOX BUILDS EVERY TYPE OF PUMP FOR EVERY KIND OF FIRE SERVICE

A LION'S ROAR ... IN A SIREN'S SHRIEK

C-5 Coaster
WITH LIGHT
AND BRAKE

C-5 COASTER SIREN WITH LIGHT AND BRAKE

Specifications:

Model	C-5
Finish	Chrome
Voltage	6 or 12
Dimensions	15⅝" long x 9" high
Net Weight	29 lbs.
Bracket	Pedestal
Brake	Electric

SPECIFY A FEDERAL C-5 COASTER SIREN

● With Loud Roar and Red Flashing Light. A lion's roar in dense forest is a signal for alertness and danger. Likewise is the C-5 Coaster Siren respected instantly with its new improved tone—its new light—new streamlined design—and longer coasting feature—these make the Federal C-5 truly a master siren. Greased sealed ball bearings give longer life, longer coasting and easier operation. The mighty, urgent voice of the Federal C-5 Coaster Siren clears traffic for blocks ahead, not only by warning drivers but by putting traffic officers to work for you in time to clear the way. Protect your men and valuable equipment.

● *Coasts* for more than THREE MINUTES after current is off . . . that saves the battery. Save Money—Buy the Best.

A Siren Roar combined with Flashing Rays of light. Electric brake stops siren roar instantly in zone of quiet. Flashing light can be operated with siren roar or independently. Don't accept low priced substitutes—buy the best. Be sure you SPECIFY a FEDERAL SIREN on your new apparatus.

NEW "77"
DOUBLETONE
WITH LIGHT

Specifications:

Model	"77"
Finish	Chrome
Voltage	6 or 12
Dimensions	15½" long x 8¼" high
Net Weight	22¾ lbs.
Bracket	Pedestal, Roof or Fender

NEW FEDERAL "77" DOUBLETONE SIREN WITH FLASHING BEAMS OF RED LIGHT

● YES, we said DOUBLETONE. A *high* piercing tone to penetrate closed cars with a command for instant action and a *low* carrying tone that clears traffic for blocks ahead. A Siren with *Two Distinct Tones.*

SOUND AND LIGHT PENETRATE FOR BLOCKS AHEAD

● To add to the carrying power—the frequencies of the TWO TONES cross at regular intervals producing an extra weighted beat that rolls ahead like the THIRD WAVE at a seashore. Built especially for Fire Apparatus to smash through traffic with a DOUBLETONE and RED LIGHT. An Electric Brake STOPS the roar instantly in a zone of quiet. LONG ROLL for more than TWO MINUTES —that saves battery.

Write for our New Bulletin No. 56

FEDERAL ELECTRIC COMPANY

8702 SO. STATE STREET **CHICAGO**

FIRE ENGINEERING, June, 1937, Vol. 90, No. 6. Published monthly by Case-Shepperd-Mann Publishing Corporation, 24 W. 40th St., New York, N. Y. Subscription price: U. S. and Canada, $2.00 a year, foreign, $3; single copies, 25c. Entered as second class matter April 15, 1929, at the Post Office at New York, N. Y., under the Act of March 3, 1879.

IN THE HINDENBURG DISASTER-

TANNIC ACID AGAIN WAS USED TO EXCELLENT ADVANTAGE IN GIVING SPEEDY RELIEF TO MANY OF THE BADLY BURNED VICTIMS!

This remarkably effective burn treatment, endorsed by leading medical authorities and adopted by fire departments everywhere, is easily, quickly and safely applied in emergencies with the completely equipped

SAFEWAY TAN-SPRAY FIRST AID KIT

Burns are poison! When you are called upon to treat a burned victim, where life is threatened, prompt and effective action is imperative to start healing action at once and to relieve pain.

Have Safeway Tanspray handy for immediate use. It quickly stops pain, which lowers temperature immediately, and also forms a protective layer which prevents infection and starts healing action.

Simplicity is a feature of the Safeway Tanspray kit. One man can operate the spraying unit speedily without previous experience. The kit is light in weight. Jars with fluffy tannic acid, measured to the exact amount for treatment, are supplied. AN INEXPERIENCED USER CAN'T GO WRONG.

The Safeway Tanspray kit is completely equipped with pump, spraying unit, tannic acid, eye bandages, jars for distilled water, ointment, antiseptic solution, adhesive tape, gauze, and cotton neatly arranged in a metal kit with handle and snap catches.

Write for further descriptive particulars and prices.

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Everything for the Fire Department Except Hose and Apparatus

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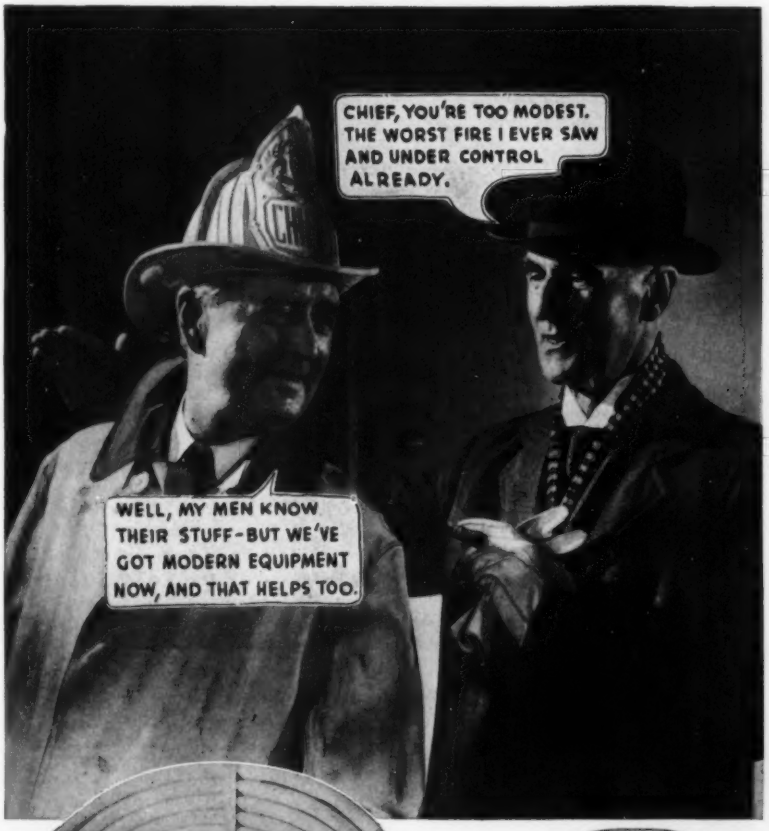
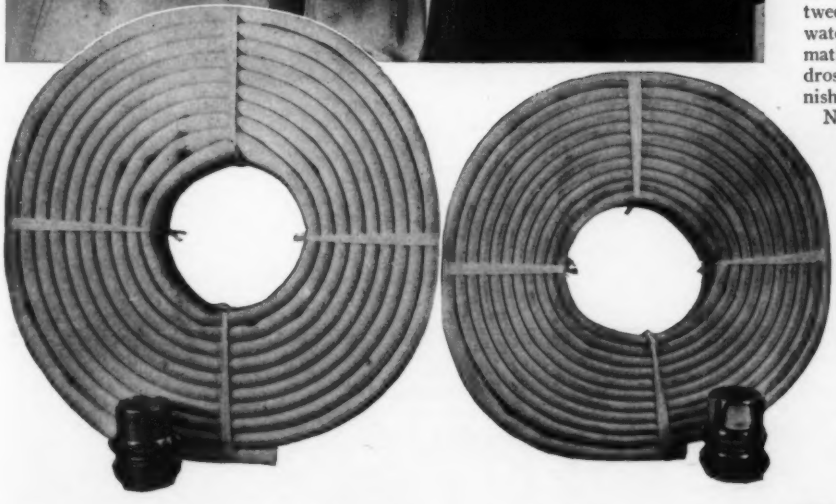
Less weight for modern fire fighters


CHIEF, YOU'RE TOO MODEST. THE WORST FIRE I EVER SAW AND UNDER CONTROL ALREADY.
WELL, MY MEN KNOW THEIR STUFF-BUT WE'VE GOT MODERN EQUIPMENT NOW, AND THAT HELPS TOO.



New fire hose is easier to drag or carry, more flexible, gives faster flow of water—all without slightest loss of strength.

SURELY no fireman should be burdened with so much as an ounce of unnecessary weight. Yet strength and quality of equipment can't be sacrificed just for lightness.

Now Goodrich, makers of Silvertown tires, makers of fire hose for 68 years, announce a hose that's 18 per cent lighter than old types, without the slightest loss in strength. Jackets are woven from a new, small, light whiplash-type cord, every foot made to Goodrich specifications; filler strands countertwisted; jackets close-woven, every filler cord covered and protected from abrasion by the warp strands. Highflex hose has been found, in laboratory tests conducted for large city fire departments, to be the equal in bursting strength of any hose on the market. The lightness and flexibility are extra, *free* advantages.

And Highflex has still other advantages: "End protection," a patented Goodrich construction protecting the hose at and near the couplings; backing between rubber and jacket to keep a smooth waterway; age-resisting rubber; automatic uniform tension in weaving. (Hydroseal antimildew treatment can be furnished if desired.)

No modern fire department need be without this hose. Highflex costs no more than other "first-line" brands. Why not order a trial length for tests and for discussion with any interested officials? Purchases now mean savings later. The B. F. Goodrich Co., Akron, Ohio.

New Highflex hose at the RIGHT in photo actually looks smaller because it racks and coils in smaller space. But it isn't. Actually the outside diameter is the same, inside slightly larger. Weight of the hose at left, uncoupled is 55½ lbs.: Highflex 45 lbs.

The new Highflex fire hose—by **Goodrich**

A Consolidation of
FIRE AND WATER ENGINEERING
and THE FIRE ENGINEER

FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

ROBERT H. LOCKWOOD
Associate Editor

FRED SHEPPERD
Editor

N. N. WOLPERT
Assistant Editor

At Your Service!

THIS is just a reminder, in case you are not taking full advantage of the various services we gladly make available to our readers.

● If you have need for any special information, or perhaps want an authoritative opinion on some phase of your work—put it up to our Questions and Answers Editor. He'll dig it up somewhere. If you have a problem that you'd like us to submit to other fire officials for their views, write our Round Table Editor. That's how he keeps the interesting "Round Table" feature going in every issue. If you are in the market for any kind of equipment and would like manufacturers' catalogs, turn to the "Ask for it" Page appearing in every issue and send in the coupon. We will see that your request is handled promptly by the right people.

● Remember, it's part of our job to help make your job easier—and we like it. So let's hear from you.

The Publishers

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It's because Goodyears give them more of what it takes for fire truck service—safe, sure-footed going regardless of weather, streets, speeds or traffic.

Goodyears provide protection against both skidding and blowouts not equalled in any other tire.

With Goodyears, you get the proved All-Weather tread—center traction—tougher, deeper, road-gripping edges—sure grip for going or stopping.

Only Goodyears give you patented Supertwist Cord construction—matchless safeguard against blowouts or tire failure of any kind. And you get it *in every ply.*

INFALLIBLE PROTECTION AGAINST BLOWOUTS

Goodyear LifeGuard* Tubes render blowouts as harmless as slow leaks. Should a blowout occur, the "inner tire" supports load—gives driver ample time to bring vehicle to a slow, deliberate stop under full control.

THE GOODYEAR TIRE & RUBBER COMPANY, INC., AKRON, OHIO

*TRADE MARK REGISTERED

THEY'RE SAFE.. SURE-FOOTED!

THERE'S A GOODYEAR BATTERY NOW!

GOODYEAR TRUCK TIRES

When life is threatened . . .

A match . . . a cigarette . . . a short circuit becomes a raging inferno. Sirens shriek an answer to the alarm. Seconds later the engines begin pumping . . . hose winds out under pressure. Will it hold—or burst? Lives and property are at stake!

For 44 years, leading fire departments have specified Manhattan Fire Hose with the assurance it will deliver water under pressure—because careful factory inspection and testing under pressure of each length guard against possible defects.

Manhattan Fire Hose is made in several grades for either light service in small departments or for heavy duty in larger cities where hose is subject to high pressures and rough treatment. Balanced in construction and flat-folding, Manhattan Hose is quickly and easily handled.

It's safest to specify Manhattan Fire Hose for replacements.

THE MANHATTAN RUBBER MFG. DIVISION
OF RAYBESTOS-MANHATTAN, INC.
Sole Manufacturers of Radio-Active Treated Mildew-Proof Fire Hose
EXECUTIVE OFFICES and FACTORIES, 52 TOWNSEND ST., PASSAIC, N. J.
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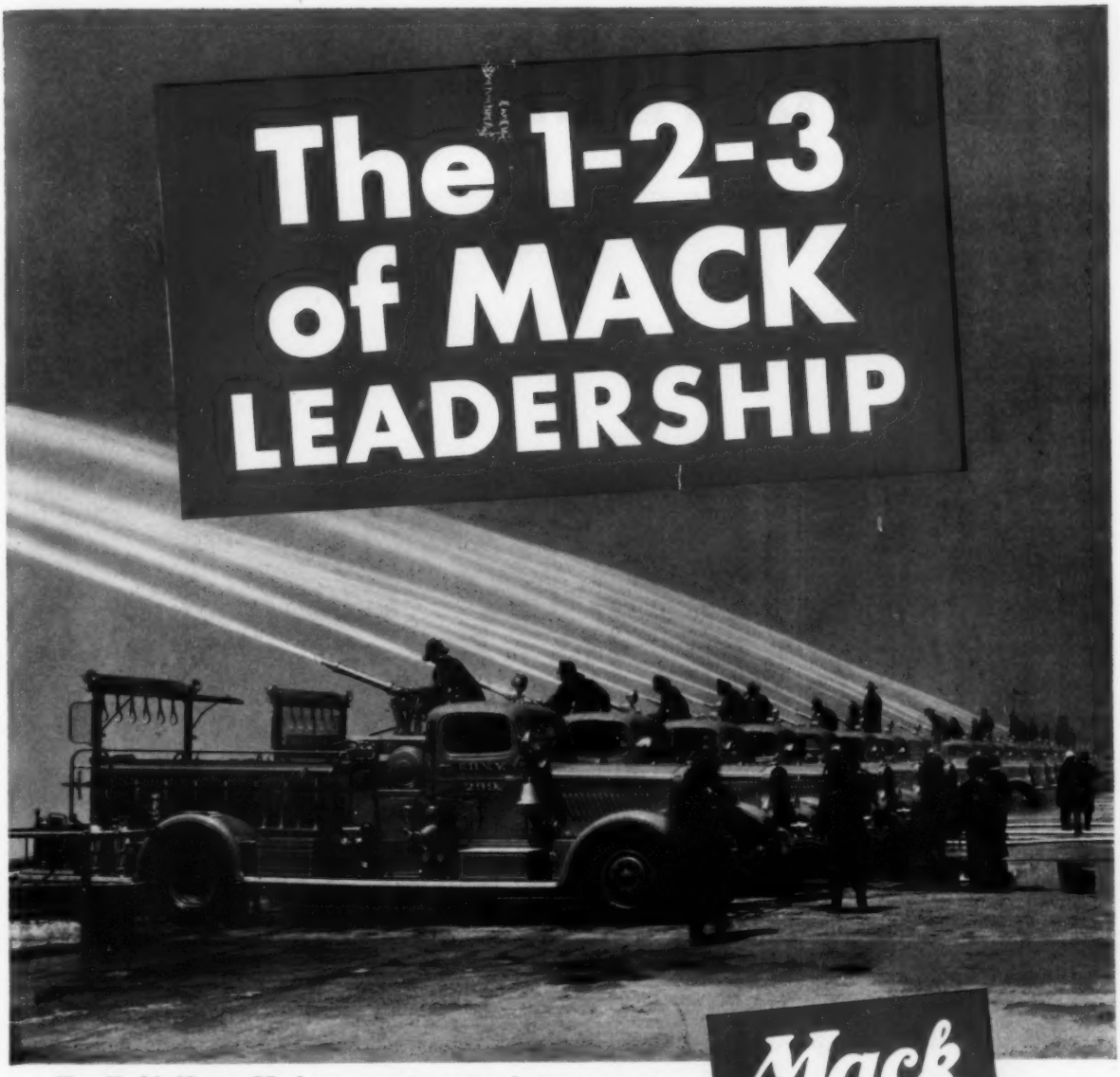

New York's 19 new Mack pumpers in action during a recent exhibition by the New York Fire Department.

Three unique advantages have kept Mack out in front in modern fire engineering

1. Mack's vast resources—which permit constant improvement. Most of the outstanding developments in fire apparatus of recent years have been pioneered by Mack.

2. Extensive facilities for research and engineering progress—and thoroughgoing outright manufacture. Every part of a Mack fire engine is carefully designed and built to Mack's rigid standards.

3. Country-wide experience, built up through 37 years of manufacturing commercial vehicles of all types. And today Mack fire apparatus leads the field in money-saving stamina, dependability and top-notch efficiency on the job.

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A GOOD IDEA--

The Three-Fold Fire Alarm Box

"A Box a Block" in congested high value districts; not more than 500 feet to the nearest box in closely built residential districts; convenient to every group of buildings, manufacturing establishments, and institutions in sparsely built districts is generally a safe rule to follow.

LIES SMOLDERING IN THESE RUINS!

. . . and that IDEA is to have SUFFICIENT, DEPENDABLE FIRE ALARM BOXES *in your City!*

Above is a good picture of one million dollars gone up in smoke! All because a fire alarm box couldn't be located in time. Years of industrial development wiped out in a few hours—perhaps never to be rebuilt in that city, with subsequent loss of employment, population, wages—and TAXES! Yet ONE alarm box could have prevented this great personal and municipal loss!

An efficient Fire Alarm System with *ADEQUATE Box Distribution*—not only protects property and life—but also protects the residential and industrial GROWTH of the community with all the attendant increase in social expansion, wages, and taxes!

That's why installing Gamewell THREE-FOLD FIRE ALARM BOXES—*and enough of them* in your city is such a valuable and permanent investment. Avoid the consequences of DELAYED ALARMS.

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THE GAMEWELL CO.

NEWTON UPPER FALLS MASSACHUSETTS

FIRE ENGINEERING

The Journal of the Fire Protection Profession

Volume 90 JUNE, 1937 No. 6

With the Editor

Electrical Hazards of Aerial Trucks Recently one fireman was electrocuted and four others were burned when an aerial ladder with which they were drilling came in contact with high tension wires.

The steel truss rods on the ladder (the ladder was of wooden construction) touched the charged wires with the results indicated above.

This accident emphasizes the care that must be taken in the operation of aerial ladders, whether of wood or all-metal construction, in the vicinity of high voltage wires, if accidents are to be avoided. The steel truss-rods on the wooden ladder carry electric current down to the truck just as readily as do the metal members of the all-metal ladder.

Everlasting caution is the price of safety!

* * *

Rescue Work—A Fire Service Responsibility If there is any doubt in the mind of the reader as to where the responsibility for rescue work in a city should be placed, it will be removed by a review of the comments appearing in the Round Table discussion elsewhere in this issue.

That the Fire Department is especially fitted, both in equipment and trained personnel, to serve in emergencies where human life is at stake cannot be questioned. The daily routine of operations is such as to develop in the firemen the skill and the self reliance to work calmly and efficiently under stress.

The Fire Department alone is provided with the necessary equipment to perform rescue work, whether it be in connection with fire fighting, wrecks, building collapse or other accidents. Its men alone are trained in the operation of its equipment.

In some communities there has been a tendency on the part of the Police Departments to usurp responsibility of carrying out rescue work. Operation of rescue cars has even been taken over by them. The number of such cases is, however, small.

That the control of rescue vehicles should be in the hands of the Fire Department is well established by the opinions in the Round Table referred to. Firemen on a nation-wide scale are today being trained in first aid work. This training, plus the training in saving lives which their daily work gives them, fits them in a most effective manner for this highly important public activity.

Rescue work should remain under control of the Fire Department, where it belongs!

Fred Shepperd

MAIN LIBRARY

Fighting a 53-Year-Old Fire

Fighters, Equipped with Modern Machinery, Are Proceeding Cautiously to Cut Off Advance of Fire in Rich Coal Area

By C. A. ROBINSON

Where Miners Escaped in Time
Men were working in this wagon mine just 24 hours before the photograph was taken. They felt the sides of the mine getting hot and, grabbing their tools, they escaped before the fire burst through.

ARMED with all the latest devices of science, Uncle Sam in the manner of the legendary St. George, sallies forth to slay a terrifying, flame belching dragon right here in Ohio.

But unlike the fabled monster allegedly slain by England patron saint, this dragon is real enough. It is an actual personification of one of nature's most ruthless forces.

For 53 years it has raged and roared in its ever-growing caverns deep underground in southern Perry County's once valuable coal lands, making a veritable "Hell on Earth" more than seven miles square between Shawnee and Newstraitsville, some twelve miles south of Perry County's seat of New Lexington.

This roaring fire dragon, burning continuously and furiously since 1884, has eaten more than $50,000,000 worth of high grade coal and now threatens the great Hocking coal fields, with their billion dollar treasure of unmined fuel.

Turning fireman in a big way, Uncle Sam is using steam and electric shovels, dynamite and the hard swinging picks of WPA workers to tame the "Inferno," as Perry County miners often refer to the subterranean conflagration. The fire has been making a charred desolate waste of the landscape, filling the air for miles with fumes, smoke and soot, and has defied all previous efforts to subdue it.

Will Spend $365,000 to Check Fire

The state has joined the federal government in this ambitious $365,000 battle to check the ravages of this destroyer, and to choke off what is declared to be easily the world's greatest, costliest fire of its kind.

Only now, after weeks of strenuous labor by some 300 men and many powerful machines, it is announced that the tide of the battle is turning, and that the ferocious fire demon soon may be "licked." But the fight is not yet won.

According to James R. Cavanaugh, general WPA engineer in charge, the work has now reached the most dangerous and essential part of the fight that of driving the lost run tunnel right through the fire that is raging in that territory. Actual work in the tunnel has been halted until all the modern machinery can be assembled and the best minds of the Federal Bureau of Mines concentrate on the latest modern scientific means, embracing safety in every move to drive the tunnel right through the blazing, raging demon, that has baffled all previous attempts.

He said, "We will succeed, we will have picked and trained crews, who will obey every safety move, and who will not take chances. We haven't had a man hurt so far and safety is the watchword."

John Hanna, superintendent of the lost run tunnel, said on May 8:

"We had to stop actual driving of the tunnel, when we broke through

Driving a Tunnel Through Fire and Gases
At the left is W. H. Farmer, District WPA Safety Engineer, Athens, Ohio, and at the right, John Hannah, Lost Run Tunnel, Supervisor, Nelsonville, Ohio.

into a great pocket of water that forced us to stop work at the head of the tunnel. That water, was forced back into the tunnel by the raging fire just ahead of it. Portions of the tunnel are now filled with black damp, and carbon monoxide gases that came through from the old workings back of the fire. We don't allow any one to go into the tunnel beyond the first trap door without gas helmets, gas detectors and with an assistant. We are bringing in centrifugal pumps and will have the water out in a few days, then we will combat the black damp and gases. But the big job will start going through that inferno of fire." It was in this hollow in 1901 in the lost run mine that, a mine owner and superintendent went in the mine one Sunday to make inspections. They used an open light, gases let loose, killed both men and wrecked the mine. In 1925, in an old mine entrance near this tunnel, a man was operating a still. He went to sleep. Black damp crept up on him. They found him sitting upright besides his still, dead. This hollow has many old mine shafts that are full of black damp and we are not taking any chances."

Tunnels Being Dug

Nearly two miles of tunnel work are under construction, the shortest one on Plummer Hill is now finished and is being filled in with non combustible material. The other tunnels are on Manley Hill and Lost Run, while gas shovels, furnished by the State Highway Department, have about a mile of open cut work finished.

Approximately $100,000 of the $365,000 WPA grant has been spent on the work that was started October 1, 1936, and it is expected to require ten months to complete the work.

Homes Endangered

The situation on Plummer Hill, seems to draw the most visitors. The fire is coming up towards the tunnel from two directions and the ground is warm in many places. One can reach down and light a cigaret by the fire that is breaking through under the grass roots.

The homes of David Rush and Williard Andrews, miners, are also attracting the attention of visitors. Both homes are still occupied, although one look at the home of Rush and nine out of ten visitors, exclaim, "I wouldn't live in that house ten minutes." Hundreds of great fire holes have opened up within 100 feet of this home.

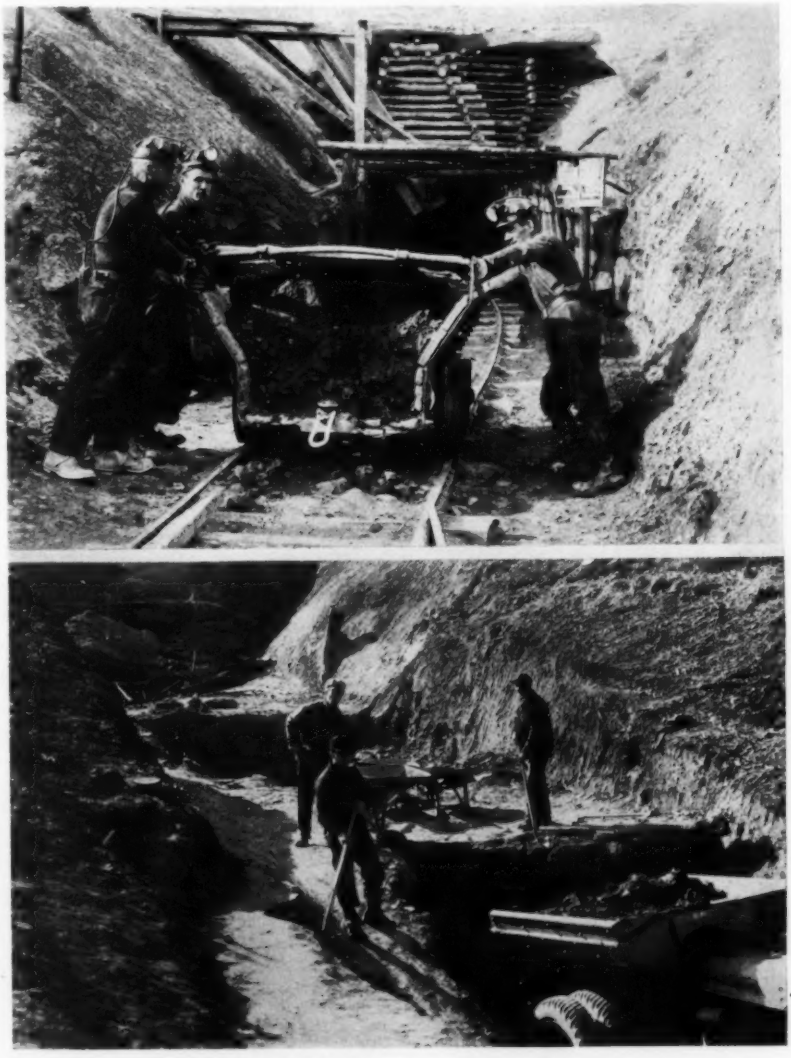
The strategy of the battle is to "Cage the Dragon," to isolate the blaze and its immediate fuel and to let it burn itself out. Like the pioneers who plowed furrows in the path of a prairie fire, the coal fire battlers are digging up the veins of coal that the flames in their natural course would follow.

Plans of government engineers call for the erection of three barriers to hem the fire demon in effectually. By thus confining the conflagration to this relatively small area, engineers believe it will be possible to save the rest of the extensive Hocking Valley Deposits, which produces a tenth of the nation's coal supply.

Two types of barriers are being built. Where the coal is reasonably close to the surface, the program calls for digging it out with steam shovels in the usual strip-mining fashion. After the soil is removed, the coal is to be taken out in a deep wide cut, which is then filled with wet mud.

The other type of barrier is a tunnel driven straight though the coal seam. All the coal in the tunnel's path is taken out, of course. To prevent any possibility of the fire jumping across the tunnel, plans call for the sinking of holes to it from the surface. Then a stream of mud is to be pumped down through the holes to fill the tunnel.

When the inferno's cancerous region is entirely isolated, the fire may take 1,000 years to burn itself out, in the opinion of James Berry, superintendent of the Ohio Bureau of Mines. Berry, who assisted engi-



Two Views of the Work to Erect Barriers to Choke Off the Advancing Fire

neers of the United States Bureau of Mines in drafting plans to isolate the fire, estimated it would take a year and a half to cork up the three "bottle necks" of the burning area.

If this is done effectively, he stated,

Drilling Holes

This is work on top of the Plummer Hill Tunnel, so slush and wet clay can be pumped down with compressed air to let the fire burn out against the non-combustible material.

the fire's course will be halted. Otherwise it is conceivable, he added, that the flames would sweep on until eventually they reach almost to the Ohio River, nearly 150 miles south of New Straitsville.

Barriers Being Erected

Gargantuan trenches and tunnels, sixteen feet wide and from eight to thirty or more feet deep, are being dug out in this strange, but highly scientific campaign to head off a seeming unconquerable force of devastation.

Largest of the barriers is being built at Lost Run, south of the fire zone in Hocking County, and is designed to protect the rich Hocking Valley Fields. It will be more than a mile long.

Next largest, which will be 4,000 feet long will extend across the northwestern corner of the fire area while the third, 3,000 feet long will be at Martin's Hollow, on the extreme western rim.

Dramatic is the fight the engineers are making to push through the tunnel on Plummer Hill. It is a race against time, for already the heat can be felt 50 feet from where the diggers are working day and night.

"A million tons of coal in Plummer Hill can be saved if we can get through in time" said A. J. Laverty, general superintendent in charge of operations, "but it will be a tight race and a dangerous one for us. We must have only experienced miners to work in the tunnels and these men must attend our safety school regularly."

One of the serious problems of the fire fighters is the influx of visitors. Motorists are coming long distances to inspect this charred and barren no man's land to watch the flames roar and the vapors spurt hissingly from glowing crater-like holes and to see the miners go about their dangerous work.

Because successive freezing and thawing of the past winter have caused so many new fire holes to pop out in the most unexpected places, the engineers in charge have placed guards at some of the more treacherous places for the protection of the sight-seeing throngs.

David Rush and Williard Andrews still live with their families in two homes on Plummer Hill, almost within a stone's throw of the blazing area. They say they are used to the fire and do not believe there is any danger, but officials predict they will have to move out soon.

Reputedly started in the great coal strike of 1884 by miners, this 53-year fire has been spreading steadily over what coal men regard as the very heart of the great Hocking Coal fields, one of the richest deposits in the world. Many acres of woods and farmlands have been ruined, some homes have been hurriedly abandoned, paved highways have caved in, and a church and a large school house have been imperiled.

Replica of Flanders Field

In this weird sector, which looks so much like Flanders Field in the days of the Great Hate, one sees strange sights. Within a few yards of a fissure from which issue smoke and fumes, an oil or a gas well may be in operation; or miners may be placidly digging coal opposite a hillside abloom with blazing craters; or school children may be playing a few yards from a spot where a miniature geyser sends up its steaming fountain at regular intervals.

"It's just Ol' Faithful," the children laugh, and go on playing.

A Common Occurrence on State Highway No. 75

The dark spots on the road is where the fire had burnt through under the highway, and was later filled in with earth. Note the fire raging all around a producing oil well. The well is cased with three thicknesses of pipe to protect it from fire.

How the great fire started is more a matter of legend than of history.

The story usually told is:

Ohio miners went on strike in 1884, precipitating one of the bitterest labor conflicts in history. The first units of the miners' union were organized in Ohio that year.

After the strike had been in progress some six months, a group of men one night seized a number of loaded mine cars on a tipple at Newstraitsville, poured oil on them, set them afire and sent them down five different shafts a mile or so underground. Within 24 hours the workings near the town were alive with flames and within a week the fire had passed all possibility of control.

As the years passed, the fire continued to eat its way into new territory, burning into solid seams of coal, as its fumes opened fissures to the surface above.

New Outbreaks Uncertain

No one ever knows when or where the fire will break through. One day last summer, a dweller in this area discovered that his cistern, his sole source of water, suddenly and unaccountably had gone dry. Even as he investigated, the cistern began to emit smoke. Then the terra cotta casing which projected from the cistern began to crack. He decided it was time for him to get away from there. With the help of neighbors, he moved the house and shortly afterwards the cistern became a belching chimney.

Like the dwellers on the slopes of Mount Vesuvius, the residents of Ohio's infernoland think little—well not too much—of the perils about them.

While visitors to the "Firelands" are prone to express astonishment and uneasiness, the folks in that region joke about the subterranean conflagration, which many of them appear to regard as just a spectacle, and one worth going far to see.

Fire Under High School

About a year ago pupils of Newstraitsville's $80,000 high school complained of the heat, even though the furnace was out. This led to the discovery that the underground fire was within 25 feet of the structure. An emergency crew dug through the basement and around the foundation, removed the smoldering coal, and saved the building.

One of the strangest things about the Newstraitsville fire, as it has been known since it first started, is that none of the men who allegedly caused this wanton destruction ever were arrested.

Mine owners offered tempting rewards to learn the names of the guilty persons. Detectives worked on the case for years. Yet nearly every one in this region conceded that it would be impossible to obtain a jury that would convict.

Three years ago the fire reached the outskirts of Newstraitsville, undermining a dozen dwellings, which had to be abandoned. Progressing steadily, the underground menace now is close to the main street of the town.

Fortunes Spent on Control

Hundreds of efforts have been made to extinguish the fire. Fortunes have been spent to that end.

In one of the most thoroughgoing of previous attempts, cement walls were sunk at what were thought to be strategic points, but the intense heat cracked the cement and the fire passed on through as if no obstacle had been encountered.

In another attempt, the course of a creek was diverted and the water sent down a shaft into the seething cavern. However, gases that resulted only seemed to spread the fire more rapidly than ever.

Method of Procedure

Explaining more in detail the plan now being pursued to conquer the blaze, Dr. Carl Watson, Ohio's Works Progress Administrator, declared,

"Our job is to cut the three veins of coal that lead to other fields and to barricade the fire by filling the incisions with clean mud. In doing this we are following the plans and recommendations laid down by the United States Bureau of Mines."

Dr. Watson thought that the fire, if isolated at the barriers now set, would burn itself out in 150 to 200 years.

An interesting phase of the mine fire fighters are the elaborate precautions taken to prevent accidents and to furnish properly equipped and efficient rescue crews, should they be required.

Safe Methods Important

At Newstraitsville a mine aid rescue training station has been set up, where enough equipment is kept to supply two rescue crews of five men each. The equipment includes self-contained oxygen breathing apparatus, battery type electric lamps, safety boots and shoes, caps with lamps, miners first aid kits, carbon monoxide gas magnets for operating safety lamps, and used to detect methanol gas or a deficiency of oxygen, cannister type masks, and many other articles needed in rescue work.

Chief Bennett Given Watch

Chief Frank Bennett, Durham, N. C., was presented with a gold watch at the close of a barbecue, part of the ninth annual North Carolina fire college held at Durham. The watch was presented on behalf of citizens of the city.

Sherwood Brockwell, State Fire Marshal, presented 241 certificates to those who satisfactorily completed the course. He also spoke during the school.

A. C. Hutson, Chief Engineer, National Board of Fire Underwriters, gave a talk on the chemistry of combustion.

The firemen went on record as recommending to the University of North Carolina that a honorary doctor's degree be conferred on Mr. Brockwell for his outstanding work as State Fire Marshal.

Kansas Chiefs Meet

A joint meeting of the Kansas State Association of Fire Chiefs, Missouri Valley Association of Fire Chiefs, and the Kansas State Firemen's Association, was held at Hutchinson, on April 26 to 29.

Talks were given by Chief H. H. McCall, President, Kansas State Association of Fire Chiefs; Chief Daniel H. Shire, President, Missouri Valley Association of Fire Chiefs, and Chief E. W. Edwards, President, Kansas State Firemen's Association.

The following papers were presented:

"Gas Masks," by H. W. Richards, Mine Safety Appliance Co., Tulsa, Okla.

"Underwriters' Laboratories, Its Service to the Public in Safeguarding Against Loss by Fire and Other Insurable Hazards," by A. R. Small, President, Underwriters' Laboratories, Chicago, Ill.

"Dust Explosion Prevention in Industrial Plants," by Dr. David J. Price, Bureau of Chemistry and Soils, U. S. Department of Agriculture, Washington, D. C.

Others on the program included:

John G. Stutz, Secretary, League of Kansas Municipalities, Lawrence.
E. H. Lindley, Chancellor, University of Kansas, Lawrence.
Chief R. A. Bogan, President, International Association of Fire Chiefs, Baton Rouge, La.
Chief Frank C. McAuliffe, Chicago Fire Insurance Patrol, Chicago.
Richard E. Vernor, Manager, Fire Prevention Department, Western Actuarial Bureau, Chicago, Ill.
Clarence Goldsmith, Assistant Chief Engineer, National Board of Fire Underwriters, Chicago.
T. Alfred Fleming, Director of Conservation, National Board of Fire Underwriters, New York, N. Y.
Harry K. Rogers, Chief Engineer, Fire Prevention Department, Western Actuarial Bureau, Chicago.

The officers elected by the Missouri Valley Chiefs are A. W. Olsen, Omaha, Neb., President; Emil A. Johnson, Boulder, Col., First Vice-President; Sol Willis, Sidney, Neb., Second Vice-President; Ray Tiller, Waterloo, Ia., Secretary-Treasurer; James T. O'Donnell, St. Louis, Mo., Director to the I.A.F.C.

State Vice-Presidents: Colorado, R. George Woods, Englewood; Ia., H. J. Callahan, Ft. Dodge; Kansas, D. J. Rayburn, El Dorado; Missouri, John J. O'Boyle, St. Louis; South Dakota, George H. Stewart, Clark; North Dakota, James Black, Grand Forks; Wyoming, Edward P. Taylor, Cheyenne.

The meeting of the Missouri Valley Association next year will be held at Boulder, Col.

Members of Honolulu Fire Department Dressing Up Their Station Grounds

These men of the Waikiki Fire Station, Honolulu, are expert gardeners, as are all of the other members of the Fire Department. Each unit takes pride in landscaping the grounds about its station. Some rare and beautiful plants are to be found at many of the stations.

When a King Served as Fireman

Honolulu, Territory of Hawaii, Has Had Two Royal Members of Its Fire Department—Now a Modern, Well Organized Force

By HAROLD A. SMITH
Assistant Chief, Honolulu Fire Department

BACK in the '80s Kalakaua, the "Merry Monarch," of Hawaii, was a full-fledged duly-enrolled, and active member of the city's Fire Department.

Honolulu lays claim, and justly so, to having the only Fire Department in the United States in which a real king served as a member. To make the assertion more emphatic, the island firemen go a step further and claim that not one, but two, royal monarchs served as fire laddies. These claims are authentic in every detail.

Two Kings Who Became Firemen

The first king to feel the urge to be a fireman was Kamehameha III, who stepped to the throne in 1833 and remained there until 1854. The second monarch of the islands unable to resist the pealing fire bells and the glare of flames was Kalakaua, who ruled his realm from 1874 to the day of his death in San Francisco, January 20, 1891. Kalakaua's death marked the passing of the last king of the islands, before they were annexed in 1898 as a territory of the United States.

These royal firemen were not mere spectators at fires; they got on the job every time the alarm was sounded. They pulled the hose carts, worked on the sidebar pumpers, wielded axes, carried ladders, and did any odd jobs that might turn up during the blaze.

Primitive Equipment at First

Volunteer bucket brigades formed the fire fighting equipment in Honolulu until about 1847, when an enterprising Chinese named Sam Sing bought a crudely constructed hand engine and made it available to the fire fighters for a slight compensation. This enterprise called attention to a need for real equipment and more adequate protection.

E. O. Parke First Chief

The first regular volunteer fire brigade was organized in November, 1850, after E. O. Parke had addressed a public meeting on the subject. Mr. Parke, incidentally, was named Chief Engineer of the brigade.

A few days later Kamehameha III, in his capacity as king, issued an official proclamation in which the brigade was called the Honolulu Fire Department. He joined the brigade at the same time.

This order also made it mandatory for every citizen to keep two buckets hanging at their homes, for fire use exclusively, and further ordered that when the bell was sounded the buckets must be brought to the scene without delay.

The bucket order was the most effective part of the king's proclamation. The only other equipment in town was the little Sam Sing engine and 150 feet of homemade hose, through which water could be thrown about 60 feet.

Canvas Hose Made by a Shoemaker

It seems that soon after the department was formed the only hose burst. J. H. Wood, a member of the department and also a boot and shoe maker, made a new hose. He sewed up one of canvas 200 feet long. This he soaked in sea brine to shrink it. Be-

lieve it or not, this hose did good service until the latter part of 1851, when a second hand engine was purchased through public subscription.

During this period Kamehameha III thought nothing of leaving his throne or duties of state to race to the scene of a fire, throw off his coat, and take his place at the pumper bar.

With the growth of the city other brigades were organized and rivalry was keen among them for the honor of being the first to put water on a fire.

During the reign of Kalakaua, and just seven years before the islands were to become voluntarily annexed as an American territory, the first steam pumper arrived in Honolulu. This bit of apparatus was assigned to Engine Company No. 1, which had also been presented with a pair of fine horses by the merchants of the town. This was in 1891, and the same year saw the arrival of a chemical engine with two 80-gallon tanks.

Paid Department Organized

Following Kalakaua's death, his sister Liliuokalani came to the throne, but was deposed January 17, 1893, and a provisional government organized. One of the first acts of the new government was the creation of a paid Fire Department. The volunteer brigades gradually disbanded and by the time the islands had become a part of the United States, the department was functioning properly.

Honolulu was an early user of motorized equipment, getting its first apparatus in April, 1912. This equipment consisted of two Seagrave combination chemical engines and hose wagons. They were followed in November of the same year by two additional hose wagons and a tractor to draw the steam pumper.

Since then the department has continued to expand and improve in efficiency until today, under Chief W. W. Blaisdell, it ranks as one of the finest for any American city of 150,000 population.

The department operates 26 trucks from nine stations. Its 155 men work on a two-platoon system which may be changed this year to three platoons.

Battle Creek Adopts Retirement Law

On April 5, the city of Battle Creek, Mich., adopted a pension system for the members of its Fire and Police Departments. This ordinance, which is Chapter XLVII of the city's laws, is entitled "Policemen and Firemen Retiring Fund."

Landscaping at the Kakaako Fire Station, Honolulu

This beautiful setting for a station is in an industrial section of the city.

According to Michigan laws, only tax payers on real and personal property are entitled to vote on an issue requiring the expenditure of public money, but the law was adopted by a vote of 3,226 in favor against 1,721 against. It provides for retirement at the age of 65, or for disability. There is also provided a payment of $50 per month to the widow of a member and $10 per month for all children of deceased members entitled to pension up to 16 years of age.

It is provided that two per cent of active members' salaries and one per cent of the amount received by retired members is to be paid into the pension fund, and also all rewards, proceeds, gifts and fines are to be turned into the fund.

The full text of the law is as follows:

Chapter XLVII—Policemen's and Firemen's Retirement Fund

SECTION 1.—On and after July 1, 1942, any member of the Fire or Police Department of the city of Battle Creek, who has attained the age of sixty-five years, shall be automatically retired, and shall be entitled to the payment of the retirement pension as provided in section two of this chapter. On and after July 1, 1942, any member of the Fire or Police Department who has attained the age of sixty-five years, but has not served for twenty-five years in said departments, shall be paid a monthly retirement pension in proportion to the amount he would have received, had he served twenty-five years, as his years of service in such departments bear in percentage to twenty-five years.

SECTION 2.—All such retired firemen and policemen shall receive during the remainder of their natural lives, a monthly pension payment equal to one-half the amount of the monthly salary attached to the rank that they held in the Fire or Police Department on the date of retirement, except as herein provided, and in event the salary of said rank be changed then he shall receive half of the salary of such rank as changed; provided, however, such retirement pension shall not exceed One Hundred Dollars per month, and provided further, that any compensation that may be paid under the Workmen's Compensation Act, so-called, shall be considered as a part of and deducted from such pension.

SECTION 3.—Total disability shall be construed to mean disability resulting from an injury or the contracting of any disease or illness while a member of the Fire or Police Department of the city of Battle Creek, which shall permanently prevent such person from performing his duties in such department. The City Health Officer and two other reputable physicians, one to be appointed by the Retirement Board and one by the applicant, shall determine whether total or partial disability exists, and if partial, the extent thereof, and shall certify the result of their findings to the Retirement Board, which findings shall be binding upon the Commission, and if said physicians are unable to agree, then in such event the findings of the majority shall be controlling.

SECTION 4.—Whenever an active or retired fireman or policeman of the city of Battle Creek shall die leaving a widow to whom he is then married, such widow shall receive a monthly payment of Fifty Dollars for the remainder of her natural life, provided however that such payments shall cease upon her re-marriage. A payment of Ten Dollars per month shall be paid to each of the children, if any, of such fireman or policeman, as shall be under the age of sixteen

(Continued on page 295)

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OFFICERS AND EX-PRESIDENTS, NEW ENGLAND ASSOCIATION OF FIRE CHIEFS

PROMOTIONAL STUDY COURSE

Herein is presented a series of definitions, questions and answers designed to aid fire department officers in preparing themselves for promotional examinations. In this department, which appears monthly, will be included questions typical of examinations held throughout the country.

Definitions

Accessibility: Ease of approach or access.

Adjacent: Near, but not adjoining.

Adjoining: Buildings are adjoining when they are built against each other.

Aero Fire Alarm System: An automatic fire alarm system utilizing the principle of the expansion under heat of air contained in a small tube which is installed along ceilings and walls and leading at each end to diaphragms in a detector unit.

Questions

(To be answered in next lesson)

1. Assume a four story brick building, second class construction, 40 ft. x 60 ft. Occupancies as follows: Basement and first floor, hardware; second floor, waist manufactory; third floor, tailoring establishment; fourth floor, storage of leather findings. Stairways front and rear, elevator and fire escape rear.

   Fire breaks out and involves the entire basement and has extended via front and rear stairways and elevator shaft to the third floor, cutting off the escape of a number of persons employed on the second and third floors. You respond on a bell alarm and are in charge at the fire for 10 minutes. State in detail what would be your actions during that time.
2. Assume a fire in a school building two stories in height, modern construction, containing 12 class rooms. There are entrances at each end of the building with interior stairways leading to upper floors. These stairways also extend to the basement. The fire breaks out in the basement and is under considerable headway. It is reported that some children are trapped on the upper floor. In response to a box alarm, you are the first officer to arrive and are in charge of the fire for 10 minutes. State in detail what you would do under the circumstances?

False and True Questions

(Is each question false or true? Answers in next issue)

3. T F—All of the following will produce explosive dusts; alfalfa, aluminum, bark, dextrine, tow, metals.
4. T F—Untrained firemen do not handicap the efficiency of a company if there are trained members in it.
5. T F—Location and accessibility of fire escapes from the inside of the building should always be noted on inspections.
6. T F—All of the following combinations may cause dust explosions: charcoal, lampblack, napthalene, malt, paper.
7. T F—Approximate time a boil over will occur from a burning oil tank may sometimes be obtained by observing the old oil on the outside of the shell, the old oil melting and running down the side of the tank as the heat wave advances.
8. T F—Fire doors are often a valuable aid in confining fire.
9. T F—Generally speaking, each dust "explosion" is made up of two separate explosions.
10. T F—It sometimes becomes necessary to break doors or windows to ventilate a building.
11. T F—Sixty-five pounds is the weight of one cubic foot of water.
12. T F—Pyroxylin is an explosive made by steeping a vegetable fibre in nitric or nitro-sulphuric acid and drying it after washing it with water.
13. T F—Water should be used as sparingly as possible at a hay fire, where the hay is stored above the ground floor.
14. T F—Water and stimulants are given unconscious persons through the mouth to revive them quickly.
15. T F—When the oil storage tank roof or cover is constructed of iron or steel, it should be much weaker than the lower plates comprising the tank.
16. T F—Intensity of the fire and the possibility of its spreading need no particular consideration in connection with fighting fires.
17. T F—As many firemen as possible should gather around and offer to assist the victim requiring first-aid.
18. T F—Distribution of water delivered by fire streams adds greatly to the inefficiency of the stream.
19. T F—When it is necessary to flood a compartment in the hold of a ship, when on fire, the bulkhead doors should be opened.
20. T F—Siamesed lines have no advantages over single lines at fires.
21. T F—In holding a life net, the net should be held at the level of the chin.
22. T F—Long electric extension cords looped over fixtures are dangerous.

Completion Statements

23. When a material requires the application of a great amount of heat to cause it to burn, it ..... considered as being inflammable.
24. The two principal reasons for the installation of basement pipe inlets (floor scuppers for operation of Bresnan distributors, etc.,) are ..... and .....
25. Two extinguishers which should not be used on fires in live electrical apparatus are ..... and .....
26. The gas generated in a soda and acid extinguisher is called .....

Answers to Questions in Previous Lesson

1. But two apparent means of rescue of workmen remain—by ladders and by life net. The life net is only an emergency measure and should not be employed unless ladders are unavailable. In placing the ladder, it will be necessary to use ground ladders, unless ladder truck can be placed in front of the building. Ground ladders placed to the fourth floor windows will probably accomplish the rescue of all workmen trapped therein. Problem does not state type of buildings on either side of fire building, nor whether it would be possible to get workmen to roofs of adjoining buildings. If such is possible, however, it would be the most expeditious method of getting them to safety.

2. Dangers incidental to men operating at a fire in a building in which nitric and sulphuric acid is present and which has been spilled by breakage of carboys, are burns from these acids and gas poisoning from the nitric acid fumes. If there are large quantities of sulphuric acid present on the floor, and it is struck with water streams, there is apt to be considerable spattering of the acid, with resultant dangers to the men operating on the floor. With nitric acid, the chief danger is presence of nitric acid fumes, which frequently prove fatal to the persons inhaling them.

   Both of these fires should be fought by first providing thorough ventilation and then using liberal quantities of water to kill the fire and to dilute the acid.

3. Two methods may be employed to get line of hose to roof. The method usually followed, and which is considered most satisfactory, is to draw line of hose up face of building by use of roof rope. In this operation members of company are sent to roof by way of ladder, carrying with them roof rope, hose roller, axe, and nozzle. Men remaining on the street couple hose lengths together, sufficient number to reach from engine to roof and providing additional hose for mobility on the roof. On reaching the roof, the men who are going to stretch the hose line up, place the hose roller on the cornice and make it fast with rope, which is attached to hose roller for that purpose. They then lower roof rope. Men on street fasten the rope around the hose, two feet from the butt, two half hitches and a binding knot, and then the line is hoisted to the roof. Two lengths of hose should be allowed for working on the roof. When the line is up, fasten it below the cornice with a rolling hitch (four turns around the hose, with a half hitch over all and a binding knot), pull the roof rope back on the roof and make it fast around the chimney or other firm object with a chimney hitch (one turn of the roof rope around the chimney with two half hitches and binding knot on the rope). Put on the nozzle, and all is in readiness for turning on the water.

   To get the line to roof by way of ladder, raise ladder from street to roof and see that it is securely placed (in the case of the ground ladder). If aerial ladder is used it will be only necessary to raise it to reach the roof of a four story building, no extending being required. Connect hose in street, and stretch to the butt of ladder and put on the nozzle to be employed. The pipe man puts on a ladder belt, takes hold of the line, which is carried under the left arm with the nozzle over his right shoulder. He then proceeds up the ladder, assisted by the balance of the men.

Man proceeding up ladder is followed by his commanding officer and another fireman, who lighten up on the hose as they ascend. Upon reaching the roof, the line is drawn up and sufficient allowed for operation on the roof (usually two lengths). To prevent line from backing down ladder, put on hose strap beneath hose coupling and snap to rung. It is not good policy to pass the hose through the ladder where it is brought onto the roof, but instead, it should be passed around the beam so that in the event that the ladder must subsequently be moved, the hose can be lifted off the ladder and be permitted to hang up the face of the building while the ladder is taken away, if necessary. In this latter case, hose must be supported, as in the case where it was stretched up the face of a building.

4. Ventilate the building thoroughly, and at the same time look for persons overcome with gas. If any are found, immediately call department ambulance (if department has an ambulance) and if not, send in call for hospital ambulance. In the meantime get them to a point of safety, outside of building, or in a neighboring building, and administer artificial respiration. Under no condition transport unconscious persons farther than absolutely necessary, for time is a vital factor in administering artificial respiration. Direct two men to go to basement of building, after thoroughly ventilating, and shut off gas service valve.

If it is impossible to ventilate basement, and the department has no gas masks or helmets available, immediately notify gas company, so that they may perform this operation. As gas has not exploded, it is an indication that it has not yet reached sufficient density to support combustion, so that ventilation will reduce the likelihood of explosion.

(NOTE: Word "farm" in question appearing in last issue should be "frame.")

5. True; 6. True; 7. False; 8. False; 9. True; 10. False; 11. False; 12. False; 13. True; 14. True; 15. False; 16. True; 17. False; 18. False; 19. True; 20. True; 21. False; 22. True.

23. . . . basement . . . roof.
24. . . . low. . . .
25. . . . uniform.
26. . . . nozzle pressure.
27. . . . ignition point.

BRIDGEPORT, CONN., WINS FIGHT TO HALT PAYMENT OF PENSION

Court Finds That Firemen Did Not Receive Ailment in Line of Duty or From Nature of Work, and Therefore Was Not Eligible

Connecticut's famous "two-thirds" salary battle in which the City of Bridgeport appealed a Superior Court decision granting two-thirds salary instead of one-half pension to Charles Fitzroy, a retired fireman, resulted in a reversed decision in favor of the City on April 28, when the Connecticut Supreme Court of Errors, in an opinion written by Justice George E. Hinman, held that Fitzroy is legally entitled to no pension whatsoever.

Reversing a decision by Judge Kenneth Wynne of the Superior Court who found the issues in favor of Fitzroy, the Supreme Court finds that the Board of Fire Commissioners acted illegally on December 6, 1932, when it retired Hoseman Fitzroy on one-half salary of $1,150, for disability not incurred in line of duty. Because of this situation, the Supreme Court declares that Fitzroy is not eligible for an increased pension in any amount.

Justice Hinman's opinion makes no attempt to define Fitzroy's status or legal rights during the period he was paid one-half pension, or to pass upon the effort of the Fire Commission to reinstate the ex-fireman to duty and then dismiss him from the service.

In February, 1936, Fitzroy was recalled by the Fire Commission for reexamination under the provisions of a law enacted by the State Legislature in 1935 which allows the Commission to recall any retired department member found physically fit for duty.

Fitzroy was granted a temporary injunction by Judge Carl Foster in the Superior Court at Bridgeport restraining the Commission from carrying out its intention of holding the meeting to discharge him. Fitzroy, afflicted with a chronic valvular lesion of the heart, has received no pension payments since that time.

Eighteen other retired Bridgeport firemen are now receiving two-thirds salary under a law enacted by the State Legislature in 1927, but since repealed. Several of these cases have been tried in the courts and decided against the city. The decision from the Supreme Court is the first victory for the city of Bridgeport which was represented by City Attorney Harry Schwartz.

Fitzroy's case was distinguished from the many others decided against the city by the fact that there was definite evidence in the record of his case that the Fire Commission, which retired him in 1932, was convinced he had not been disabled in line of duty.

"The consequence of our foregoing conclusions," Justice Hinman remarks after lengthy discussion of the issue, "is that upon the situation presented by the record the relator (Fitzroy) is not entitled to additional payments on account of past pension or to future pensions in any amount. There was ample evidence to support the city's contention."

Justice Hinman's decision reviews Fitzroy's case from the time of his appointment in 1921 to the department, through his various periods of sick leave, the Commission's actions at the retirement meeting in 1932, and its attitude when Fitzroy wrote in 1932, a few days after the meeting, to claim a two-thirds pension for disability. It points out that Fitzroy was one of seven firemen retired at the particular meeting and that while two were retired on two-thirds pension specifically for disability in line of duty, Fitzroy was one of five granted half-pay. Neither in the resolution of retirement nor in the minutes of the meeting was any reference made to the cause of retirement.

Justice Hinman in his opinion further finds that after Fitzroy wrote asking two-thirds pension the Commission had three doctors examine him. They reported January 9, 1933, that his heart condition originated in two attacks of articular rheumatism and that they found nothing in the history of his fire service to show his condition "can in any way be attributed to injury or exposure." His claim at that time was denied, but his half-pay pension continued until revoked in 1936.

Remarking that "it appears from the memorandum of (Judy Wynne's) decision that the court in so concluding relied upon the rule that public officers are presumed to have done their duty until the contrary appears. . . ." Justice Hinman agrees that such presumption is sufficient to sustain the Commission's determination to retire any person "in the absence of proof that they acted arbitrarily, illegally, or so unreasonably as to have abused the discretion reposed in them."

He continues, however, to say that: "The finding discloses no facts that from which the members of the 1932 Commission reasonably could have derived an opinion that disability of the relator (Fitzroy) at the time his retirement was voted was a result of injury or exposure in the line of duty; the reports made to them by the department doctor afforded no such indication. Their denial of his higher pension after the physical examination also indicates clearly that then, at least, they had decided he was not qualified through disability to receive the higher rate."

THOMAS F. MAGNER.

Chief Whiting Dead

Homer B. Whiting, Chief at Hampton Beach, N. H., for more than twelve years, died on May 23.

A number of New England Chiefs attended the funeral. The pall bearers included Chief Rufus A. Crittenden, Haverhill, Mass.; Chief Frank Perkins, Seabrook, N. H.; Chief George Lamont, Hampton Beach, N. H.; Capt. Arthur B. Walker, Haverhill.

The Late Chief H. B. Whiting

THE ROUND TABLE

For Practical Discussion of Current Fire Department and Fire Management Problems

RESPONSIBILITY FOR RESCUE WORK

NOT all calls that come to the Fire Department are for fighting fires, nor are all demands made on the Police Department for the customary support of law and order.

There are times, when due to a major or minor accident, first aid must be administered, aside from the customary ambulance service. Those trapped by falling debris or steel girders must be removed, those caught by cave-ins must be dug out, and resuscitation methods applied where necessary.

Since both the Police and the Fire Departments are divisions organized for public safety and since both are available any moment of the day, the question now arises, which should be responsible for the rescue work. Shall it be the Police Department? Shall it be the Fire Department?

Due to the large number of responses to this discussion, it has been necessary to continue it in the next issue.

If you have a question that you would like to see discussed in this department, write to the "Round Table Editor," FIRE ENGINEERING, 24 West 40th Street, New York, N. Y.

Discussion of the Question

E. W. Gieselman, Chief, Syracuse, N. Y.: As to who should be responsiblie for rescue work and rescue truck operation, I am unqualifiedly in favor of having both fields under the jurisdiction of the Fire Department.

While both the Fire Department and the Police Department are servants of the public, it is my opinion that the Fire Department is in a far better position to provide this particular service than the Police Department.

A rescue truck or automobile, stationed in the quarters of a fire company, would receive the constant care and attention of the men affiliated with the unit. The same would be true of the equipment. The net result would be a properly equipped, smooth working, efficient rescue unit. Then too, the men assigned to this branch of service under Fire Department jurisdiction, are or can be, especially trained so as to be qualified to serve in any and all emergencies. This would not be the case if the work were entrusted to policemen, since police duties and activities are such that the equipment and service, generally speaking would be limited to the facilities afforded by the truck alone.

In the case of the Fire Department, there is an abundance of tools, ropes, ladders and other equipment in reserve which would be available at any and all times. Men in the Fire Department have more opportunities and time to undergo special training and instruction and thereby become adept and proficient in all phases of rescue or emergency work.

C. E. Schrom, Chief, Washington, D. C.: In general, I believe that a rescue squad or company should be under the supervision of the Fire Department, rather than the Police Department. A great deal of the work performed by any such unit will be at fires where the Fire Chief will be in command, and I believe it is well to have all such agencies under one controlling head. However, local conditions in other municipalities might be such as to bring a rescue unit logically under police control. I can speak, of course, only from the standpoint of the Washington Fire Department.

Oscar Grab, Chief, New Rochelle, N. Y.: In my opinion the Fire Department in our city should be responsible for rescue work and rescue truck operation, mainly due to the fact that there is always sufficient manpower available sooner and further that the Fire Department is far better equipped for the purpose.

O. F. Romann, Chief, Cleveland Heights, Ohio.: It is my opinion that all rescue work should be performed by the members of the Fire Department. My experience justifies this statement after reviewing seven years operation of a rescue squad in our department.

The members of the rescue squad were selected from the entire personnel of the department as to their ability and proficiency in this particular branch of the service. The men were given an intensive training in the operation and use of the various types of masks, tools, and apparatus carried on the rescue truck.

Doctors from the American Red Cross instructed the members of this company in emergency first aid, and all members continued this training until they had attained the highest rank in proficiency, that of duly qualified American Red Cross instructors.

The squad truck is equipped with inhalators and resuscitators to render emergency oxygen treatment to patients suffering from asphixia, pneumonia and other ailments that necessitate the use of this equipment. The squad is on emergency call to all members of the medical profession who wish to avail themselves of this service. An elaborate first aid kit is carried on the truck, and contains equipment to treat patients for burns, wounds, fractures, shock, asphixia, drowning, poisons and many other emergencies.

As to the efficiency and appreciation of this service, we have in our files numerous letters from citizens, patients, doctors, civic organizations and state bureaus bearing testimony of the excellent service rendered by the Fire Department rescue squad. I know that the operation of this service by our department has been a decisive factor in the creation of good will between the Fire Department and the citizens of our city.

A. G. Derra, Chief, Schenectady, N. Y.: Both Police and Fire Departments should be responsible for rescue work. Whichever department arrives at the scene of the fire first should do the rescue work. Truck work is properly the function of the Fire Department. Each department should have the hearty cooperation of the other and I am glad to state that we have that cooperation here in Schenectady.

F. Higgins, Assisant Chief, Grand Rapids, Mich.: The Fire Department should be responsible for rescue work and rescue truck operation, due to the fact that they are generally at the scene of the fire early and with equipment and trained men.

Walter F. Israel, Chief, Detroit, Mich.: In Detroit, the Fire Department handles rescue and resuscitation work. We have four rescue companies which carry complete rescue equipment including inhalators. They respond to all special calls for first aid and resuscitation. Men in this department are given a special course of instruction in this type of work at the Detroit Fire Department Training School. The Fire Department in De-

HERE IS THE PROBLEM

Which should be responsible for rescue work and rescue truck operation: (1) Police Department? (2) Fire Department? Why?

troit has been handling all rescue work of this nature since the Rescue Squads were put in service in 1912.

The Detroit Police Department is not equipped to handle rescue work; however, a Police Department ambulance is often times called to remove patients to the hospital.

I would not care to state which department should be responsible for this work. I believe that it is a matter of choice in the various cities as to which department is assigned to handle rescue work, but I do think that in most of the large cities in this country, that the Fire Department is in charge.

Following is a report showing the variety and the number of special rescue calls our rescue squads responded to during the year 1936:

Statistical Summary of Special Emergency Calls

	Rescue Co. 1	Rescue Co. 2	Rescue Co. 3	Rescue Co. 4	All Other Companies	Total All Companies
Total No. of Runs	66	161	251	253	43	774
Runs: No Service	17	39	54	71	28	209
Hours Service	158¾	61¾	120½	98¾	8½	447¾
Miles Traveled	192	641	1,564¾	1,757½	97	4,252¼
Refrigerator Systems	4	16	10	23	1	54
Calls out of City	0	0	0	0	24	24
Hrs. Service Out of City	0	0	0	0	0	0
Misc. Special Calls	10	4	5	7	6	32
Rescued from Cave-ins	0	0	0	1	1	2

Classification of Resuscitation Cases and Results Obtained

The following tabulation presents a detailed analysis of the resuscitation cases handled by the department during the year. Resuscitation treatment gave satisfactory results in 397 out of 548 cases in which it was administered or an average of .724 per cent successful. Sixty persons had been pronounced dead on arrival and 113 persons were fully revived and did not require treatment.

In a great many instances the patient was removed to the hospital by Police Ambulance, and on numerous occasions members of the Rescue Companies accompanied the patient and administered first aid treatment while enroute to the hospital.

Thirty-six patients were removed to hospitals during the year by the Rescue Companies.

Nature of Case	Number of Patients	Revived	Died	Revived on Arrival	Dead on Arrival
Acute Indigestion	4	4	..	..	..
Apoplexy	2	1	1	..	..
Asthenia	1	..	1	..	..
Asthma	2	2	..	..	..
Bronchitis	1	..	1	..	..
Burns	2	2	..	..	..
Carbon Monoxide Gas	157	130	5	19	3
Childbirth	1	1	..	..	..
Choking Spell	2	1	..	1	..
Convulsions	16	7	4	5	..
Croup	1	..	..	1	..
Diabetes	2	1	1	..	..
Diphtheria	1	..	1	..	..
Drowning	5	2	2	1	..
Electric Shock	6	4	2	..	..
Epileptic Fit	4	3	..	..	1
Fainting Spell	3	2	..	1	..
Fumigating Fumes	1	..	..	1	..
Gasoline Fumes	2	..	..	2	..
Hanging	4	..	3	..	1
Heart Attack	108	20	52	8	28
Hay Fever Treatment	1	1	..	..	..

THIS DISCUSSION WILL BE CONTINUED

Due to the large number of replies that have been received to this discussion, it will be concluded in the next issue.

Nature of Case	Number of Patients	Revived	Died	Revived on Arrival	Dead on Arrival
Heat Exhaustion	6	3	..	3	..
Hemorrhoids	1	..	..	1	..
Hysteria	2	1	..	1	..
Illuminating Gas	182	114	17	39	12
Intoxication	2	..	..	2	..
Jaundice	1	..	..	..	1
Menthol Chloride Gas	1	1	..	..	..
New Born Babies	75	38	25	8	4
Oil Fumes	1	1	..	..	..
Operation and Shock	5	1	4	..	..
Overdose of Medicine	2	2	..	..	..
Paint Fumes	1	1	..	..	..
Phosgene Gas	1	1	..	..	..
Pneumonia	37	15	11	7	4
Poisoning	7	2	1	4	..
Sewer Gas	3	3	..	..	..
Smoke Asphyxiation	24	21	1	2	..
Strangulation	3	2	..	1	..
Suffocation in Bed	5	..	5	..	..
Suffocation by Steam	1	1	..	..	..
Syphilis	1	..	1	..	..
Throat Trouble	4	2	..	1	1
Nature Unknown	30	7	13	5	5
Totals	721	397	151	113	60

	Rescue Co. 1	Rescue Co. 2	Rescue Co. 3	Rescue Co. 4	All Other Companies	Total All Companies
Revived	23	93	164	112	5	397
Died	13	30	52	56	0	151
Revived on Arrival	11	20	33	42	7	113
Dead on Arrival	2	13	16	29	0	60
Totals	49	156	265	239	12	721

Detroit Fire Department Training School Annual Report for 1936

The following is the attendance for the year of Officers, Pipemen, Laddermen, and Trialmen of the Detroit Fire Department, who received instructions in the various courses:

Pipemen and Laddermen	8,656
Officers	1,955
Trialmen	2,144
Total	12,755

A. C. DuRee, Chief, Long Beach, Cal.: It is my opinion that the Fire Department should be responsible for the rescue work and truck operation.

First: because it is the fundamental objective of the fire service to save life and property. I don't believe we are confined to the saving of property. Second: the men in the fire service are trained in the use of rescue equipment, and their work deals more with the mechanical than does the police work. In addition, instantaneous response peculiar to the Fire Department is of great value in rescue work.

Grover L. Frock, Chief, Springfield, Ohio. The Fire Department should be responsible for rescue work and rescue truck operation, because they can and will respond quicker to such calls. Then, too, they seem to be able to take care of such cases better.

Most Fire Departments in cities of our size are usually better equipped. As a rule in case of an accident there is needed some type of equipment for rescue work that can be found among Fire Department equipment, such as ropes, ladders, axes, gas or fresh air masks, rubber boots. Most firemen are better trained in the use of these articles than members of Police Departments.

I believe firemen are better able to handle such emergencies as collapse of buildings, cave-ins of street excavations, persons trapped in gas-filled rooms, or caught by electric wires.

George M. Kellogg, Chief, Sioux City, Iowa.: I think that the Fire Department should be responsible for rescue work. If it is a fire the Fire Department is usually on the grounds first. If inhalator squad is needed, the Fire Department, I believe, is usually better equipped. In our city we have a trained crew. The men have been trained at Agricultural College and Red Cross, and have diplomas from both.

W. Q. Dowling, Chief, Jacksonville, Fla.: Fire Departments should be responsible for rescue work, because the Fire Department always keeps the same trained crew of men to do such work. If the Police Departments have not changed their way of detailing their men of very late date they would not have the same crew on at the same time, and they would possibly not be as well trained as a crew that are on duty at all times as in the Fire Department.

Barney J. Houston, Chief, Cincinnati, Ohio: Fire Departments should be responsible for rescue work. Due to the type of work in Fire Department service it is necessary that its members know first aid and how to render it. Every fire has its own hazards, burns, from heat, hot materials, acids, chemicals, suffocation, asphyxiation, electricity, struck by falling objects, and collisions. Fire being an emergency, service must be rendered immediately. This demands fast work on the part of the firemen creating a greater possibility of injuries. Therefore, it is obvious that these men know how to care for such injuries immediately, for experience has taught them that first aid rendered at the time of an accident will protect the patient from further harm and possibly save limbs from disfigurement or amputation, or keep him from bleeding to death.

This being the case, the fireman sees the benefits to be derived from a thorough knowldge of how to render first aid. It creates within him a desire to render such service to the citizens of the community to which he has obligated himself for saving life and property. Firemen, due to being stationed within their quarters and working in a unit in charge of an officer, have a greater opportunity for service training than the police. The equipment used in regular fire-fighting service and carried on fire apparatus, answers the purpose for all rescue work and any progressive Fire Department should be equipped with first aid supplies to be used for that purpose. Therefore to equip the Police Department with all of this emergency equipment would mean a double outlay of money.

The training of a fireman from beginning to end teaches him to save and help those in need. He, therefore, develops a more human and sympathetic basis, which is the in-

spiration which creates that urge to do things.

Irby Klinck, Chief, Memphis, Tenn.: Rescue work is a logical Fire Department job, because when fires, disasters or catastrophes occur the Fire Department is immediately notified. Fire apparatus, especially in the larger cities, are equipped with all tools and appliances often necessary to perform rescues.

The personnel of a Fire Department is better qualified to perform rescue work, due to training along these lines in the latest and most efficient methods. The Fire Department's apparatus is located in strategic points over the city, and in a short time the apparatus, as well as a greater number of men than the Police Department could afford to send, will be enroute to the location in question.

It might also be mentioned that rescue work is a major operation in any up to date Fire Department.

W. P. Payne, Chief, Spokane, Wash.: The Fire Department should be solely responsible for all rescue work and rescue truck operation, as they have the advantage of training, man power and equipment.

The average Fire Department already has a group of men trained in rescue work and the operation of rescue equipment. With their Drill Instructors and drill towers the department can receive further instruction along given lines, as well as keep the men in top physical condition.

Through this large body of trained men, one man or the entire department can be called to a given location at a moment's notice and by alternating shifts they can carry on indefinitely. All Fire Departments carry a large amount of rescue equipment that is very necessary in effecting rescues and can be operated only by trained firemen.

Earl A. Traeger, Chief, Minneapolis, Minn.: There are many phases of the question as to whether the Police or Fire Department should assume the responsibility of rescue work, and rescue truck operation. Sound reasons can be advanced to indicate that this work should be performed by the Police Department and equally sound arguments can be offered that this responsibility should be assumed by the Fire Department. It is my opinion that this should be a Fire Department function.

There is no need to discuss how this work was originated in the fire service, in order to render assistance to its own members injured in the line of duty, and the resulting requests for such aid to the public. The fundamental principles of the fire service, in my opinion, are the protection of life and property from fire and such other closely allied duties, as it may be called upon to perform from time to time in the interests of public welfare.

Rescue work has developed upon the fire service as a natural sequence of past performances and experience. The public has become accustomed to calling upon the Fire Department for this service. Therefore, notwithstanding that this responsibility is one of general public welfare, it is my thought that the predominating reasons for the fire service to assume this responsibility are the prestige and good will the department receives from Mr. and Mrs. Citizen for performing such work. The good will of the public thus earned has its part in maintaining better working conditions for the firemen.

James C. McAllister, Chief, McKeesport, Pa.: In my opinion, both Police and Fire Departments are subject to certain amounts of rescue work.

The Police Department is in closer contact with the Public in general, and naturally the bulk of all rescue work falls to them. On the other hand, the Fire Department is usually better equipped to cope with the situations confronting rescue workers, and therefore when the Police find matters too much for them to handle, they should without any delay send for the firemen. Of course, if upon arrival at the scene either of the departments in question are called upon to do rescue work, they should be well enough trained to do it with neatness and dispatch.

In the larger cities it is possible to pick a crew of able bodied men from each department to carry on this work, which in my opinion is a wonderful thing, but in the smaller communities, the two departments must combine and work together in emergency cases.

Wm. J. Lutz, Chief, Wilmington, Del.: In my opinion the Fire Department should be the bureau to operate this service. The special training for this emergency work can be handled to advantage. We have recently placed in service in Wilmington, a fully equipped rescue squad wagon, operated by the Fire Department and manned by members of this department. This apparatus and crew respond to any and all emergency calls.

Ralph J. Scott, Chief, Los Angeles, Cal.: We believe that the Fire Department is the logical city department to carry on rescue service for several reasons.

First, the Fire Department seems to have been the first to engage in it. Civilians are accustomed to call the Fire Department for such service. In the minds of the public, the Police Department deals with law violators exclusively and the Fire Department is usually called to help out in any difficulty of any other nature.

Second, all firemen are more or less familiar with and equipped to render first aid. In the course of their occupation they must attend to each other's burns and injuries to a greater extent than the policemen.

Third, by a wider distribution of units throughout the city, firemen are generally more readily available to outlying districts in cases of emergency.

As in most cities, our rescue service is the outgrowth of the old "squad wagon," which was operated for first aid to injured department members. Many years ago it expanded greatly in facilities, and calls from the general public began to be received and taken care of. Finally, nearly all rescue service calls are from the civilian public, and we do not believe the public would wish the service discontinued, or the activity transferred to the police or any other department. Other cities have had, no doubt, a similar experience.

Charles A. McGinley, Chief, East Orange, N. J.: Rescue equipment is usually carried by Fire Departments. Where Police Departments do rescue work, new equipment has to be purchased for this work, which means a duplication. Policemen may be trained in rescue work, but are not trained as firemen. A fireman has training in both branches, which is very necessary, in my opinion, if the best results are to be obtained.

O. J. Parker, Chief, Atlanta, Ga.: As a great many cities maintain a rescue truck in the Fire Department, it is natural to assume that the Fire Department would be responsible for its operation. However, I think that police should be trained in rescue work, just the same as firemen. Of course, the firemen are expected to bring the injured out of a burning building, or any other place which might be on fire. If the police on the scene were trained as the firemen in first aid work, great good would result.

S. D. O'Conor, Chief, Beaumont, Tex.:

Fire Damages Napa, Cal., High School

Fire, which started in the central portion of an attic because of a defective circulating fan motor, badly damaged the Union High School of Napa, Cal. Four pieces of apparatus responded under command of Assistant Chief A. E. Moody. The force consists of six paid men with twelve call men, but the fire proved too much for this limited force. The school was constructed of concrete walls, with wooden partitions. The loss was estimated at $72,000.

In the majority of cases where rescue work has to be done it requires the use of special tools, which in most cases can be found on a fire truck, but not on a police car. The firemen are better trained in the use of these tools and consequently the rescue work could be done more quickly by them than by a police officer. Of course, all officers should be trained insofar as possible in rescue work, but I think the responsibility should rest on the Fire Department rather than the police.

E. C. Daunter, Chief, Jackson, Mich.: In my opinion the question is due serious consideration, as much depends on the type of rescue work involved. The rescue work at fires should be done by the Fire Department, because the men are trained in that type of work. However, the police can always be of assistance, which is greatly appreciated.

Other types of rescue work should be done by the Police Department with the Fire Department ever ready to assist them, when human lives are involved.

Luther P. Willis, Chief, Pueblo, Col.: The Fire Department should be responsible for such work, as it seems to me that the Fire Department is better able to cope with rescue work. As a rule firemen have had training in this work; the Fire Department is provided with the necessary equipment for most all kinds of rescue work, and the Fire Department is in a position to respond to an alarm with more speed than the Police Department, as the men and apparatus are always ready.

Albert W. Rowe, Chief, Terre Haute, Ind.: The Fire Department should be responsible for rescue work and rescue truck operations, because the firemen are trained in rescue work and have the equipment for rescuing in practically all cases of emergencies.

Thomas R. Hartnett, Chief, Racine, Wis.: In this State, rescue work is all done by the Fire Department and as we have made good, it should stay with the Fire Department.

Ambrose Saricks, Chief, Wilkes-Barre, Pa.: The Fire Department should be responsible for rescue work and rescue truck operation.

The Police Department in our city, upon receiving word of fires through the Police radio system, give valuable help to the Fire Department upon arrival, but I believe the Fire Department should be responsible for rescue work, because they are thoroughly trained in this work and are the first upon the scene of fires. They have all the necessary equipment for this type of work.

Geo. W. Wood, Chief, Niagara Falls, N. Y.: The Fire Department, in my opinion, should be responsible for rescue work and rescue truck operation, as the personnel of the Department have more training in that line of work.

While our Department has no regularly equipped rescue truck, the apparatus in the Department is equipped with ropes, tools, ladders, gas masks, inhalators, etc. A rescue squad is more readily available in the Fire Department.

S. E. Hansen, Chief, Dallas, Tex.: I insist that the Fire Department should be responsible for rescue work, because the modern Fire Department of today is more fully equipped to meet any emergency. The Fire Department is ready to respond with a squad, whereas the police are more likely to lose time in organizing.

The Fire Departments, as a rule, are more thoroughly trained in first aid and how to handle various emergencies.

J. N. Sullivan, Chief, Utica, N. Y.: I believe that the Fire Departments in most communities should be responsible for rescue work and for rescue equipment.

The Fire Department can be called upon for additional immediate personnel in case of an extended emergency, as its members are ever on call for any emergency.

C. A. Delaney, Lakewood, Ohio: Responsibility for rescue work and rescue truck operation should, in my opinion, be delegated to the Fire Department.

Rescue work is of such vital importance and is so diversified in nature that to function properly men must necessarily be specially schooled in all its phases and extensively trained in the use of rescue equipment.

Members of the Fire Department, due to the nature of their general duties, are in an advantageous position to receive the necessary training and to devote the required time to acquire sufficient knowledge of this highly specialized work.

The general equipment of the modern Fire Department is such that, where conditions require appliances, rescue activities could be effected advantageously by the Fire Department.

* * *

Answer to Previous Question

The following reply is in answer to a previous question on what are the best means for keeping volunteer firemen interested in the activities of the department?:

J. C. Van Hyning, Chief, Livingston, Mont.: To keep the men interested, hold fire drills, contests and tournaments, etc., regularly.

We believe in friendly rivalry, for without it you haven't a department you can trust when needed. As to discipline being beneficial, I would say not in a volunteer Fire Department, if you pick the right sort of men.

L. L. Mohr, Chief, The Delles, Ore.: It has been my experience that the best means of keeping volunteer firemen interested in department activities is to give them a good constructive program of training based on practical firemanship. The volunteer upon entering the department should be impressed with the importance of the work he is undertaking and the value of the service he is rendering the community. The sooner he is made to realize that the Fire Department is not a plaything or a social organization, but that it is the most vital point of defense that any city or town has, the more interest and pride he will take in the affairs of his department.

One of the best methods of inside drill is to sketch some of the more important and hazardous buildings of the town on a blackboard or large sign cloth, giving the size of mains in the district and the hydrant layout. Then asume that a fire occurs in certain portions of the building and combat the fire on the blackboard, using the conference method of discussion. (The blackboard is fast becoming one of the most important tools of the Fire Department.) A complete set of notes on the discussion should be kept for future reference. We have found that by using this method should a fire occur in any of these buildings, the battle is already half won, as the volunteers have a very clear idea of the building, its construction and surrounding exposures. These discussions create plenty of interest, for as a rule a whole evening will be used on one building, and the volunteer will go home feeling that he has learned something of value to himself and the community.

I do not believe that developing rivalry between companies on drills helps, because, as a rule it develops jealousy, if let go too far. However, there is one system which is used by at least two cities in Oregon, of which I have yet to hear of a case of jealousy. This is a merit system, whereby the fireman is given credit for attendance at each fire, each drill and each meeting. These merits are posted on a blackboard at the end of each month and at the end of the year the men highest on the list are awarded a badge of merit or something worth while as a prize. This system, besides creating a lot of friendly rivalry, gives the officers a check on who is taking an interest and who is not.

Firm discipline is not only beneficial but is necessary. By this I do not believe in being "hard-boiled," but I do believe that an officer should insist on good conduct at meetings, drills and at fires. Some social activities should be indulged in, but as a rule the volunteer will appreciate the department more if it is conducted on a business basis.

Four years ago it was my privilege to reorganize the local department, which consists of four paid men and twenty-eight volunteers. We have tried to run it along educational lines and have found the volunteers go for it in a big way and that we have gained a great deal of prestige with the citizens.

Montana Firemen Win 8-Hour Day

Firemen of Montana are to have an eight-hour day.

Two years ago a similar measure was passed but the State Supreme Court ruled the measure unconstitutional. In order, therefore, to have the step declared legal, it was necessary to have a state amendment passed. A bill to amend the state constitution was passed and signed by Gov. Ayers before the eight-hour law was presented. Both bills received the unanimous support of the legislature.

The law went into effect on May 9, 1937. In Great Falls, this measure was adopted by having the shifts change at 7:30 a.m., 3:30 p.m., and 11:30 p.m. There is a change of shift on the first and sixteenth of each month.

Each city has the power to determine its own working hours, although the men are required to work but eight hours per day.

SAFEGUARDS AND SAFE PRACTICES FOR PROTECTING TANKS DURING FLOODS

Representatives of Oil Industry, Fire Chiefs and Insurance Interests Draft Tentative Set of Rules for Tank Protection

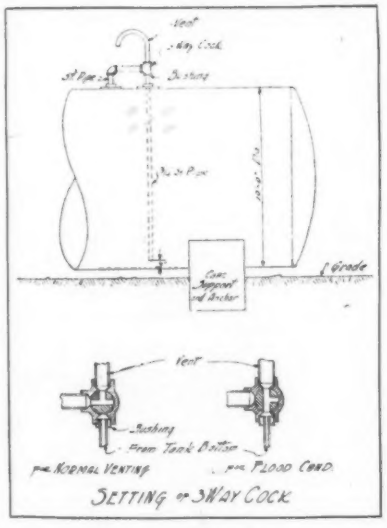
UNPRECEDENTED floods, which swept through sections of Connecticut, Pennsylvania, Ohio, Indiana, and Kentucky, have demonstrated the great hazard to property when rising waters float and upset tanks used for the storage of flammable liquids. Some tanks, because of the small amount of liquid in them, were floated from the foundations and the escaping oil added to the already abnormal hazards.

Following the floods, a special committee was appointed made up of representatives from the I. A. F. C., the National Board of Fire Underwriters, and oil interests. This committee prepared a set of tentative standards for safeguarding flammable liquid storage tanks, as follows:

SECTION A. Aboveground Tanks

1. Vertical Tanks

a. No aboveground vertical storage tank, containing flammable liquids, shall be so located that the maximum allowable liquid level within the tank is below the established maximum flood stage.



Above Ground Tanks

Arrangement of venting equipment for horizontal tanks which may be submerged by flood waters.

Except at locations where there is an ample and dependable public water supply available at and below the established maximum flood stage, facilities independent of public water supply shall be provided for loading partially empty tanks with water.

b. In addition to the preceding requirements, each tank so located that more than 70 per cent, but less than 100 per cent, of its allowable liquid storage capacity will be submerged at the established maximum flood stage, shall be safeguarded by one of the following methods:

1. Tank shall be raised, or its height shall be increased until its top extends above the maximum flood stage a distance equivalent to 30 per cent or more of its allowable liquid storage capacity, provided, however, that the submerged part of the tank shall not exceed 2.5 times the diameter; or,

2. A tank with roof of adequate strength to withstand internal pressure of flammable liquid due to hydrostatic head of flood water at the established maximum flood stage, shall be provided with a concrete inner bottom of sufficient weight to provide adequate loading of tank when filled with flammable liquids.

Special provisions shall be provided to equalize the internal and external pressures on the tank so as to prevent deformation of the tank and resultant expulsion of flammable liquids.

3. As an alternative to the foregoing, adequate incombustible structural guides, designed to permit the tank to float vertically without loss of products, shall be provided.

2. Horizontal Tanks

a. Except at locations where there is an ample and dependable public water supply available at and below the established maximum flood stage, facilities independent of public water supply shall be provided for loading partially empty tanks with water.

b. Each horizontal tank so located that more than 70 per cent of its storage capacity will be submerged at the established maximum flood stage, shall be secured to a concrete or steel and concrete foundation of sufficient weight to produce adequate loading of tank when filled with flammable liquids.

c. Special provision shall be provided to equalize the internal and external pressures on the tank so as to prevent deformation of the tank and resultant expulsion of flammable liquid.

3. Other Types of Tanks

Tanks of design other than covered in the foregoing paragraphs shall be treated as vertical tanks and required to comply with the requirements for that type of tank.

SECTION B. Underground Tanks

1. Underground tanks, containing liquids having flashpoint below 100 deg. Fahr., at locations where there is an ample and dependable water supply available at and below the maximum flood stage and so installed that more than 70 per cent of storage capacity will be submerged at the maximum flood stage, shall be loaded with concrete or other approved loading material sufficient to prevent movement of the tank when filled with flammable liquid and submerged by flood waters.

2. At locations where there is no ample and dependable water supply, the tank shall be loaded with concrete as above required and in addition, there shall be provided an emergency liquid supply which shall be sufficient to fill the tank during flood stages.

3. Where loading of underground tanks with liquids is impracticable because of the character of their contents or their use, each tank shall be safeguarded against movement when empty and when submerged by flood waters, by loading with concrete or other approved solid loading material. Each such tank shall be so constructed and installed that it will safely resist external pressures due to flood waters.

4. In addition to the foregoing requirements the capacity of each new tank installed shall be restricted to not more than 3,000 gallons. When installed, but before backfilling, tank and fittings shall be tested for tightness at not less than 15 pounds per square inch. Greater test pressures may be required by the authority having jurisdiction, when tanks are subject to submergence in excess of 30 feet.

5. Where tanks are not designed to resist external pressure, special provision shall be provided to equalize the internal and external pressures on the tank so as to prevent deformation and resultant expulsion of flammable liquids.

SECTION C. Independent Water Supply Facilities

1. At locations where an independent water supply is required, it shall be entirely independent of public power and water supply. Independent source of water shall be available when flood waters reach a level not less than 10 feet below the bottom of the lowest tank on a property.

2. The self-contained power and pumping unit shall be so located, or so designed, that pumping into tanks may be carried on continuously throughout the rise in flood waters from a level 10 feet below the lowest tank to the level of the potential flood stage.

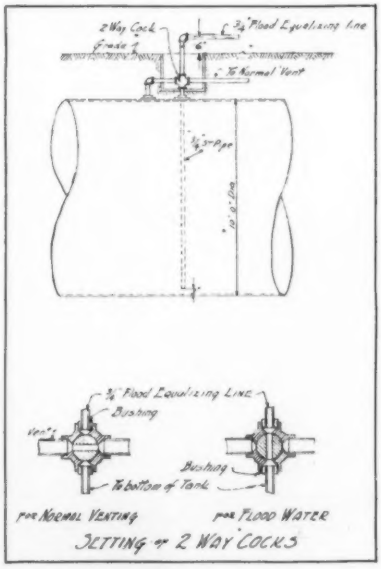
3. Capacity of the pumping unit shall be such that the rate of rise of water in all tanks shall be equivalent to the established potential average rate of rise of flood waters at any stage.

4. Each independent pumping unit shall be tested periodically to insure that it is in satisfactory operating condition.

SECTION D. Structural Guides

1. Structural guides for holding floating tanks above their foundations shall be so designed that there will be no resistance to the free rise of a tank, and shall be constructed of incombustible material.

2. The strength of the structure shall be adequate to resist lateral movement of a tank subject to a horizontal force in any direction equivalent to not less than 25 lbs. per sq. ft., acting on the projected vertical cross-sectional area of the tank.



Below Ground Tanks

Arrangement of venting equipment for horizontal tanks which may be submerged by flood waters.

3. Where tanks are situated on exposed points or bends in a shore line where swift currents in flood waters will be present, the structure shall be designed to withstand a unit force of not less than 50 lb. per sq. ft.

SECTION E. Safe Practices to be Followed

1. Water Loading

(a) The filling of a tank to be protected by water loading shall be started as soon as flood waters reach a dangerous flood stage. The rate of filling shall be at least equal to the rate of rise of the flood waters (or the established average potential rate of rise).

(b) Sufficient fuel to operate the water pumps shall be available at all times

to insure adequate power to fill all tankage with water.

2. Floating Tanks

(a) Where structural guides are provided for the protection of floating tanks, all rigid connections between tanks and pipe lines shall be disconnected before the flood waters reach the bottom of the tank, unless control valves and their connections to the tank are of an approved type of extra heavy construction.

(b) All valves attached to tanks other than those used in connection with water loading operations shall be closed and locked.

(c) If a tank is equipped with a swing line, the swing pipe shall be raised to and secured at its highest position.

FOUR-ALARM BLAZE SWEEPS OVER LARGE FACTORY BLOCK IN PITTSBURGH

Firemen Succeed in Preventing Flames Reaching Large Box Plant — Automobiles on Street Destroyed by Rapid Spread

By William E. Patterson

ONE of the hottest, quickest burning and most spectacular daylight fires that has visited Pittsburgh in years, swept through the large block bounded by Penn Avenue, Smallman Street and Twenty-seventh and Twenty-eighth Streets in the heart of the "Strip" industrial district in Pittsburgh, Pa., early on the afternoon of May 6. It destroyed or damaged most of the buildings in the block and for a time threatened to sweep across Penn Avenue and develop into a conflagration. It was stopped and brought under control by sixteen fire companies called on four alarms.

The fire started in a large two-story frame and iron clad warehouse, 125-feet square, formerly a machine shop, and swept through this old oil soaked structure used as a rubbish disposal plant and garage, with great rapidity.

Even before the first line of hose was stretched and a stream of water turned on the burning warehouse, the flames had jumped across Smallman Street, Twenty-seventh Street and Mulberry Alley, a twenty-foot thoroughfare between Penn Avenue and Smallman Street.

Windows in surrounding factory buildings were burned out, while a number of two-story brick dwelling houses on the opposite side of Mulberry Way from the burning warehouse were destroyed, as the great volume of flame swept over the top of these structures into a row of two-story brick store and apartment buildings on Penn Avenue, most of which were burned out in the rear.

Racing eastward, the flames swept through the lumber yard of the Pittsburgh Box Company and a huge pile of sawdust, approximately twenty-five feet high, which were destroyed.

Efforts to save the warehouse, lumber yard and the dwellings in Mulberry Way, being futile, the firemen under the direction of Chief Nicholas A. Phelan and his Battalion Chiefs, turned their attention from their fight there, to stop the flames from sweeping across Penn Avenue and into the large plant of the Pittsburgh Box Company, which occupied the eastern end of the burning block between Penn Avenue and Smallman Street.

Thirteen pumper streams were used, three of which were placed in the planing mill of the box factory, a large three-story brick and iron clad structure. Firemen, by hard, efficient work, kept the fire practically confined to the burning block. Heat radiated through the high corrugated iron wall of the planing mill structure, which became red hot from the intense heat, set off a large number of sprinkler heads, causing a heavy water loss.

Two Views of the Four-Alarm Fire in Pittsburgh

Left, this is what the first alarm companies found when they arrived. Right, an aerial ladder being used as a water tower to fight the rapidly moving fire.

Salvage Covers Save Stock

Salvage covers spread by Squad Company No. 1 saved a large stock of finished box lumber and valuable machinery from any damage.

Many of the three hundred or more workmen employed in the box factory and nearby manufacturing plants, forced from their work by the fire, volunteered their services and helped the firemen drag lines of hose from place to place in the fire zone.

In addition to the buildings destroyed and damaged by the flames, a number of automobiles parked on the streets were set on fire by the intense heat and were completely destroyed before they could be removed to safety.

When Battalion Chief Callaghan arrived at the scene, the fire was so hot that it was impossible to get near the nearest fire box to send the third alarm. He sent it by telephone at 2:30 p.m.

The fourth alarm was transmitted at 2:41 p.m., and a special call at 2:55 p.m. for Squad Company No. 1.

A manual fire fighting force of eighty-three firemen responding to the four alarms and special call with six 1,000-gallon and six 750-gallon triple combination pumpers, three combination hose, chemical and turret wagons, two 85 and one 75-foot aerial trucks and one squad wagon. In all 10,450 feet of 2½-inch hose, 850 feet of one-inch lead line hose, and 200 feet of chemical hose, were used, as well as 556 feet of ladders and 39 salvage covers.

Chief Bogardus Retires

George W. Bogardus, Chief of the Norwalk, Conn., Fire Department for the past twenty-four years, was granted retirement by the Board of Fire Commissioners of that city on May 11. After voting to grant the 72-year-old Chief's request, the Board named Charles A. Volk, present Deputy Chief, to succeed Chief Bogardus.

The request of Chief Bogardus for a pension was not regarded as a great surprise, as he became eligible for retirement two years ago, but declined to accept this privilege at that time.

Chief Bogardus was born at Danbury, Conn., and came to Norwalk at an early age, where he attended school. He later was employed as a cigar-box maker and hatter and in 1909 was named inspector of permanent roads. When South Norwalk and Norwalk were consolidated in 1913, Bogardus was named Chief of the city Fire Department and has been the only man to hold that position since.

Previous to that time, Bogardus had served as Chief of the Putnam Hose Company, a South Norwalk volunteer company. He joined that company in 1884 and has been a fire fighter for the past fifty-three years. Born on Washington's Birthday, Chief Bogardus was named George Washington Bogardus after the country's first President.

Deputy Chief Volk, who was advanced to Chief of the Norwalk department, is well known in Connecticut fire-fighting circles, and has served his city for several years as a fireman.

THOMAS F. MAGNER.

Questions and Answers

NOTE—Readers are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified

Hydraulic Factors

To the Editor:

Would you kindly let me know as soon as possible what the "K" is for ½-inch nozzle on a 2½-inch line. Also what the factor is for changing 1¼-inch hose to 2½-inch hose?

B. H.

Answer: The value of K for ½-inch nozzle on a 2½-inch line of hose is .00625. To find the approximate value of K for any size nozzle on 2½-inch hose, multiply the diameter of the nozzle by itself three times and divide by 10. In other words, the approximate value for K for 1-inch nozzle on 2½-inch hose would be 1 x 1 x 1 x 1 ÷ 10 or .1.

The factor for changing 1¼-inch hose to 2½-inch hose is 0.0078.

As the friction loss in lines of hose of different diameters carrying the same amount of water per minute varies as the 5 power of their diameters, you can find the approximate value of the factor for changing any particular size of hose to 2½-inch by multiplying the diameters of the lines of hose by themselves four times and then dividing the figure so found for the hose for which you wish to find the factor by the figure you have gotten by multiplying the 2½-inch hose diameter by itself four times. (In multiplying a number by itself four times you really use the number 5 times, as, for example, 3 multiplied by itself four times gives 243).

Pump Discharge at Different Pressures

To the Editor:

The rule for finding discharge at any given pressure is to multiply the rated capacity by the rated discharge and then divide by the pressure at which you wish to find the discharge. This rule holds only within narrow limits, for you will find upon calculations that at low pressures the discharge will be tremendous.

I would like to know just how far you can figure this. I would also like to know if by opening the throttle you increase the amount of water being discharged or just increase the pressure and get less water.

R. S.

Answer: The limiting factors which determine the maximum discharge of a fire engine at pressures below rated pressures are: 1. Maximum safe speed of engine and pump; 2. Power of engine.

No two fire engines are exactly alike and unless you had a performance curve for each unit, there would be no way of determining what the maximum discharge of any one would be.

This information might be secured from the manufacturers of various types of pumps.

Opening the throttle would increase the speed of the pump, and both discharge and pressure would be increased.

Deck Gun Supplied by Two Pumps

To the Editor:

Will you please solve this problem?

Two pumping engines are supplying a deck pipe. One engine is pumping through 900 feet of 2½-inch hose, and the other through 450 feet of 2½-inch hose. The deck pipe is equipped with a 1½-inch tip. What is the pressure on each engine? The discharge is 500 g.p.m. E. E. H.

Answer: This problem would have an infinite number of answers. Where two engines are pumping into a deck gun, the pressure at either one of the engines may vary from slightly more than nozzle pressure on up. The difference between the engine and nozzle pressures for any engine determines how much water it will be supplying to the nozzle. If the difference between engine pressure and nozzle pressure is very small, the amount of water being delivered by this engine to the nozzle is likewise small. So there is no single answer which could be given to the problem that alone would be correct—as noted above: an infinite number of answers, all correct, might be arrived at.

Pumping From Well

To the Editor:

A local theatre owner was drilling a 250-foot well to supply water for the air conditioning of the theatre. It was necessary to pump the shaft dry so an eight inch casing could be sunk. They decided to use a city-owned 700-gallon centrifugal pump and after pumping a while the water was not being pumped out fast enough. The operator measured the flow in a barrel and estimated by a stop watch that 250 gallons per minute was being pumped. They then decided to make sure and got a pitot gauge and two shut-off nozzles from the fire department and this test showed much less than 250 gallons per minute.

Following are the dimensions of the pump: 4 cylinder, C. H. & E. centrifugal. Rated 700 g.p.m., at 20 ft. draft. 1800 r.p.m. pump running wide open. 4-inch intake with 40-foot 4-inch pipe down in the well. The water is 26 feet from the surface.

The well is 250 feet deep, two 2½-inch outlets with 50-foot lengths of hose, one length to each outlet.

The well is eight inches in diameter. The pump pistons 3¼ x 4-inch. 30 pounds vacuum gauge on pump. The two nozzles were attached to the two lengths of hose, the one-inch tip was shut off and the pitot gauge on the ⅞-inch tip showed 125 gallons per minute.

Something is wrong somewhere. I still believe the pump was delivering better than 300 gallons per minute, inasmuch as it was drafting from a 40-foot depth through a four-inch iron pipe. The pipe was 14 feet under the water, and 40 feet deep and there were 224 feet of water in the well. The water was 26 feet from the surface; 40 feet of iron pipe from the pump down in the well and the end of the pipe was 14 feet under the water.

Some of the men thought that the pitot gauge could not register accurately under the conditions stated. The pump was pumping twice the depth of its rated capacity which was 40 feet. That is why I thought the pump was delivering about half of the rated capacity. C. A.

Answer: The dimensions of a centrifugal pump would tell us little that would be of use in calculating the discharge under the conditions you describe.

In calculating the discharge from the pump, you mentioned that one tip was shut-off and the other gauged; presumably the one being gauged was shut-off and the other tested for capacity.

Your figures show that the ⅞-inch nozzle operating alone discharged 125 gallons per minute, and the one-inch tip 128 gallons.

If this is correct, then the discharge from the two of them, operating at the same time, would be probably a little less than 250 gallons per minute. A centrifugal pump operating in the layout described would, at a constant speed, maintain a certain pressure. The operation of two lines would not reduce the pressure very much, particularly where the total flow from the two lines is far below the capacity of the pump. There would, however, be a slight increase in friction loss in the piping, but this would not materially affect the results.

It is not at all a bad performance for a centrifugal pump to lift water 26 feet vertically. The fact that it was lifting water a distance twice the height it was

designed to operate at, would not cut down the discharge 50 per cent. The additional load represented by the pump lifting water 26 feet instead of 14 feet, would merely be the static head representing the difference between 14 and 26, or 12 feet. This static head represents a pressure of approximately 5.2 pounds.

2 Firemen Killed at Crossing

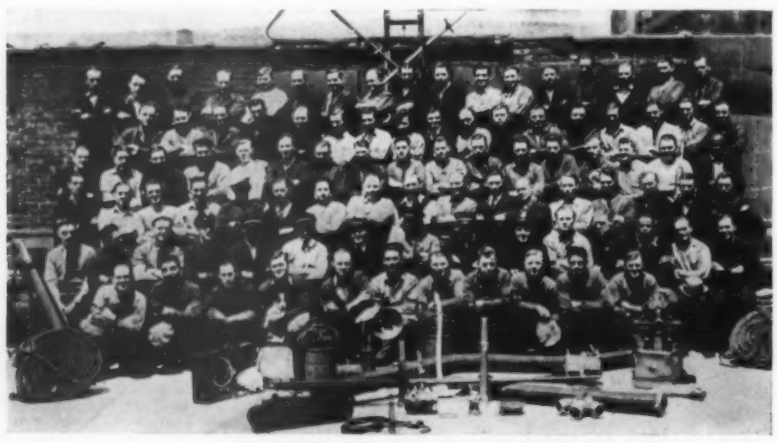
Two members of the Kingston, N. Y., Fire Department, Peter Carey and Preston L. Dewitt, were killed when the fire apparatus on which they were responding to a fire crashed through grade crossing gates and struck a moving train. A third fireman, Ferrill Finkle, was in a critical condition for several days following the smash-up. Chief Joseph L. Murphy expressed the belief that the accident was caused by faulty brakes.

Chicago Has Large School Class

A class of 97 probationary firemen completed a thirty-day training course at the Department Training School on June 1, and were assigned to active duty.

Sixty-eight regular Firemen were recently promoted to the rank of Fire Engineer (pumper operator), in addition to 21 civilians who were assigned to duty in the same rank.

The 21 civilian engineers received a fifteen-day course of instruction at the Training School and then were assigned to the repair shops, under supervision of the Supervisor of Maintenance and



Fire Department Probationers and School Instructors

Equipment, for training in pumper operation.

At the same time a class of 22 newly promoted Lieutenants received advanced instruction in the Officers Division of the Training School. This made a total of 145 men under training at the school at one time.

These various promotions were made to fill vacancies occasioned by the compulsory retirement rule which was effective January 1, 1936. This law has since been ruled unconstitutional on grounds of discrimination. An old statute was then discovered which gave the local Civil Service Commission the power to establish age limits for Firemen and Policemen.

By William Paul Babcock

I'D like to have a dollar for every time I've heard some Chief say "We can't do salvage work because we don't have enough men and we can't organize a new unit now and we have no room to carry covers on our trucks."

I have two shining examples of the fact that no matter how thin you slice it, that's just so much *baloney!*

First, listen to Chief Frank C. Harding, of the Port Jervis, N. Y., Fire Department and note that this is a volunteer outfit in a pretty busy city, a railroad centre on the main line of the Weary Erie. Says Chief Harding:

"Shortly before noon one day just prior to Thanksgiving, we had a call to a three story frame store and dwelling, which was going well before we arrived. On the ground floor were a liquor store, a Grand Union grocery, a confectionery and a repair tailor.

"All our eleven covers were used, being spread concurrently with the laying of hose lines. Fire was extinguished by proper approach and attack at its heart through trap-door in attic; line kept going there for about 30 minutes, after which booster lines were used in overhauling. This meant considerable water seeping down through the floors to the stores.

"However, when the drip stopped and covers were removed, and check-over made, *the only loss* found consisted in a few labels on liquor bottles on upper shelves of the liquor store, and this damage had been done before our men got to work in there. But had we not used extreme care in removing covers we might have undone all the good already accomplished.

"I revert to the time of the fire and ask you to observe that all stores *resumed business as usual that evening.*

"So pleased was the Grand Union Manager with what we had done for him, that he presented us with a very sizeable check.

"Final check of damages showed that the use of salvage covers in this instance reduced the overall loss at least 50 per cent.

"The city officials were so impressed they have since bought more covers and still others are to be furnished as equipment on a new truck soon to be delivered.

"The men who do our salvage work are any of the early arrivals at fires who can be spared by the officers in charge of their companies. This is a departmental regulation."

So much for the big town, and what an example that was. Now here's a little burg, only 1,500 to 1,600 population, down where George Washington hanged Major Andre (need I mention Tappan, N. Y.?) with a cockey, progressive Chief, who, although he sells balogna over in the Bronnix, hands out none elsewhere; but tries to be up-to-the-minute. So, although his truck is overloaded and he never has too many men, still he is now taking up salvage work, beginning with three covers, of the *best* type now obtainable. Chief Keller ("Pete" to me) is a shining example to many others in larger towns, and he'll bear watching.

Well, now to the old barber shop slogan, *"Who's Next?"*

1,200 Enroll for School

Commissioner John J. McElligott announced the opening of a fire school at Long Island City to be known as the Fire Hazard Inspector's School. It will have an enrollment of 1,200 members of the New York Fire Department.

One reason for the establishment of this school is that the Fire Department will soon resume fire prevention work. The new city charter, which will go into effect on January 1, 1938, will bring back fire prevention to the department. Some years ago, it was taken from the department and given to the Building Department.

The men will be divided into groups of sixty and will attend three sessions a week for five weeks.

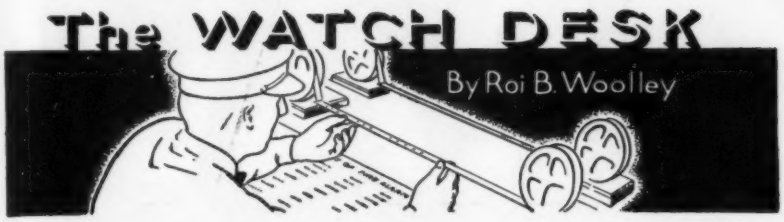
Fireman Electrocuted at Drill

During the course of a department drill at the headquarters of Wilkes Barre, Pa., the metal truss rods of a wooden aerial ladder came in contact with a high tension wire that carried 11,000 volts, electrocuted a Lieutenant and burned four firemen. The accident took place fifteen minutes before the drills were scheduled to close.

The ladder was being raised so that it could be put against the tower for a hose evolution. The turntable slipped sideways and the ladder came in contact with the wire. The Lieutenant was killed when he jumped on the apparatus and tried to swing the turntable clear of the wire. An officer was slightly hurt when he pushed the Lieutenant from the apparatus. The two men most severely burned were caught as they tried to fasten levelling jacks underneath the front wheels of the apparatus.

In commenting on the accident, Chief Saricks said that no one was negligent. The ladder was being raised properly, when for some unexplained reason, the ladder slipped.

The WATCH DESK



Our inquiring reporter overhauls the firemanic news of the day.

Here's a New One!

Thomas Dowd, aged 4, South Ozone Park, Queens (N. Y.) went to rear window of his home toting his trusty air rifle (his mother had gone away). Searching for a target he spied a line of clothes hanging in a neighbor's yard. Having no lead pellets, he loaded up with matches and let fly. His marksmanship was so good that clothes broke into flame and were destroyed, not, however, until the blaze had spread to the neighbor's car, nearby. Prompt work of F. D. saved the car. Police confiscated air rifle and played nurse to boy until mother returned home.

It Might Have Been Worse!

May's Department Store, Brooklyn (N. Y.), has been scene of labor trouble. Last month 12 girls entered store, took positions on various floors and at a signal began yelling "Fire!" Patrons stampeded, police reserves came hustling, but luckily nobody was seriously injured. Plenty of exits proved their usefulness. Some day some store won't be so lucky! Wonder what they'd have done to the gals if a panic had killed somebody. Probably let 'em off with a slap on the wrist!

Another Hula Skirt Becomes Pyre

Mary Perdue, a waitress, Los Angeles (Cal.), saved wages to buy hula skirt, so she could become a dancer. Making her debut, in waterfront barroom revel, man touched match to her grass dress, making her a flaming torch. She ran length of bar, collapsed and died. Police arrested Matthew Donahue, 57-years old as culprit, who denied guilt, but admitted being drunk.

Boys'll Be Boys!

Elbert Hubbard used to say the Lord must dearly love fools, he made so many of them. Latest example of foolhardiness is that of school children of Coldwater (Mich.) who were using dynamite as playthings. Police took ten sticks away from 'em, as one was trying to ignite one of the sticks. Explosive stolen from rear of man's home; he was using it to break up used machinery. Who was more foolish—children, or man who left explosives laying around?

Bedtime Stories

Lenora Weller, aged 7, New York City, was seriously burned when she took a book of paper matches to bed with her and apparently played with them. Hearing her screams her mother rolled child in rug, rushed her to hospital. Condition listed as serious.

Mrs. Virginia Pettit, Jackson Heights (L.I., N.Y.) rescued her sister Mrs. Janet Jones, aged 29, from burning bed in their apartment, turned in alarm and then became so engrossed in treating her sister that firemen were forced to smash open door to get into burning apartment. A passerby saw smoke coming from apartment, dashed up, awoke Mrs. Petitt, who found sister writhing in bed, her pajamas aflame. She dragged sister to floor, beat out flames, called police and was still applying first aid when firemen broke in.

Puts Kick in Fire Fighting

Finding beer a good aid to fire fighting, the Hillside (Md.) Vol. F. D. renewed its license. According to Chief Wm. T. Miles, the $500 the unit makes selling beer at weekly dances in the fire station goes long way toward financing fire fighters. Reported also that this F. D. sells fireworks for the Fourth of July! What might be called playing both ends against the middle!

Fires Fire Youths' Ardor

Three youths landed in county jail (Waterloo, N. Y.) on charges of arson, because it was said they set barns and sheds afire. Youths admitted they were prompted by desire to attract a crowd, which they hoped would "contain some girls." That's a new way of getting 'em!

News Flashes

Last year a fire at plant of a Tonawanda paper company caused $70,000 loss; later another blaze did $30,000 damage; recently a third fire resulted in damage of $15,000; company is building new plant. . . . "It's not the moral aspect of the thing, but the combustibility." That's what Barnard College (swell school for gals) announced recently, in forbidding smoking in the vicinity of the lecture halls. . . . When bamboo-roofed Tropics Café, Beverly Hills (Cal.) was threatened by a fire next-door, many movie notables fled for safety, including Norma and Natalie Talmadge, Roscoe Karns, Oscar Hammerstein, George Jessel, Sam Woods, and others. . . . In Nicaragua three men were killed by carbon dioxide gas while digging a well; gas is believed to have been sealed in ground by the 1931 earthquake. . . . Gunnysack parachutes, laden with over 40 lbs. of food and tools will be dropped from planes to forest fire fighters in Idaho's million acre primitive area, this summer, says forest supervisor Floyd Godden. . . . City Judge Jacob Gitelman, Rochester (N.Y.), says pranksters who turn in false alarms should stand expense of calling out F.D., so he estimates expenses at $100 and fined his first victim accordingly. Hooray for the judge! . . . In Charlestown (W. Va.) fire destroyed general store and P.O. and adjoining buildings. Handicapped by scant water, Charles Town and Harpers Ferry F.D.'s finally tapped a source across the railroad tracks, but a passing train cut the line. Train went right on—so did the fire. . . . In front of 361 Fifth Avenue, N. Y. C., freak blowout shot manhole cover high in air and then let it settle right back in place again. Other covers also went aloft, due to accumulated gas in a conduit. . . . William Woodin, Jr., son of the late Secretary of the Treasury, was dragged from blazing plane by Pilot John D. Milner. In poor health, he was rescued just in time as fire destroyed plane after a forced landing. . . . New Jersey is latest State to ban sale of, or importation of fireworks into State for celebrating July 4 . . . An insane man in Shanghai who had been chained to bed with iron shackles for six years, set fire to bed; Fire department rescued him—sent him to asylum. . . . A 15-year old boy of the Bronx (NYC) found 13 sticks of 40 per cent dynamite in vacant lot. . . . Twelve persons were killed, 13 seriously injured, 2,000 made homeless when fire destroyed 385 houses near Cairo, Egypt. . . . A man was burned to death, a fire truck destroyed and only a shift of wind saved Manomet (Mass.) from forest fire. . . . In Hempstead (L.I.) Herbert Scheper Jr, aged 2, stuck his foot in a drainpipe; members of Hempstead Vol. F.D. rescue squad chopped him out. . . . Taunted over alleged membership in the Black Legion, Fire Captain William H. Bradburn of Pontiac (Mich.) F.D. killed fellow fireman and committed suicide.

The Month's Orchids

Orchids to Elmer Rice, a cripple with one leg, living near Winfield, Alberta (Can.) who walked 14 miles to warn a family of approaching fires. Elmer Craig, his wife and two daughters lived in heart of area swept by brush fires. Clothed in gunny sacks, children were hustled from their home at Ross Baird sawmill after Elmer Rice, the cripple, had struggled through bush country to warn Craig, a lumber company watchman. Fire arrived almost as quickly as Rice, but the Craig family were saved, the sawmill, bunkhouse and other property being destroyed.

Note to contributors: If you do not read your news contribution in the next issue of FIRE ENGINEERING don't despair —if it's suitable it will ultimately find its way into print.

Editor, Watch Desk.

WHAT DO YOU KNOW?

The Editor of "The Watch Desk" welcomes contributions from readers of FIRE ENGINEERING that briefly give facts about interesting, odd things that have to do with fires, fire fighting, etc. Address "Editor, Watch Desk."

SEAGRAVE

THE GREATEST NAME IN FIRE APPARATUS

THE MUNICIPALITIES LISTED HAVE PURCHASED

SEAGRAVE

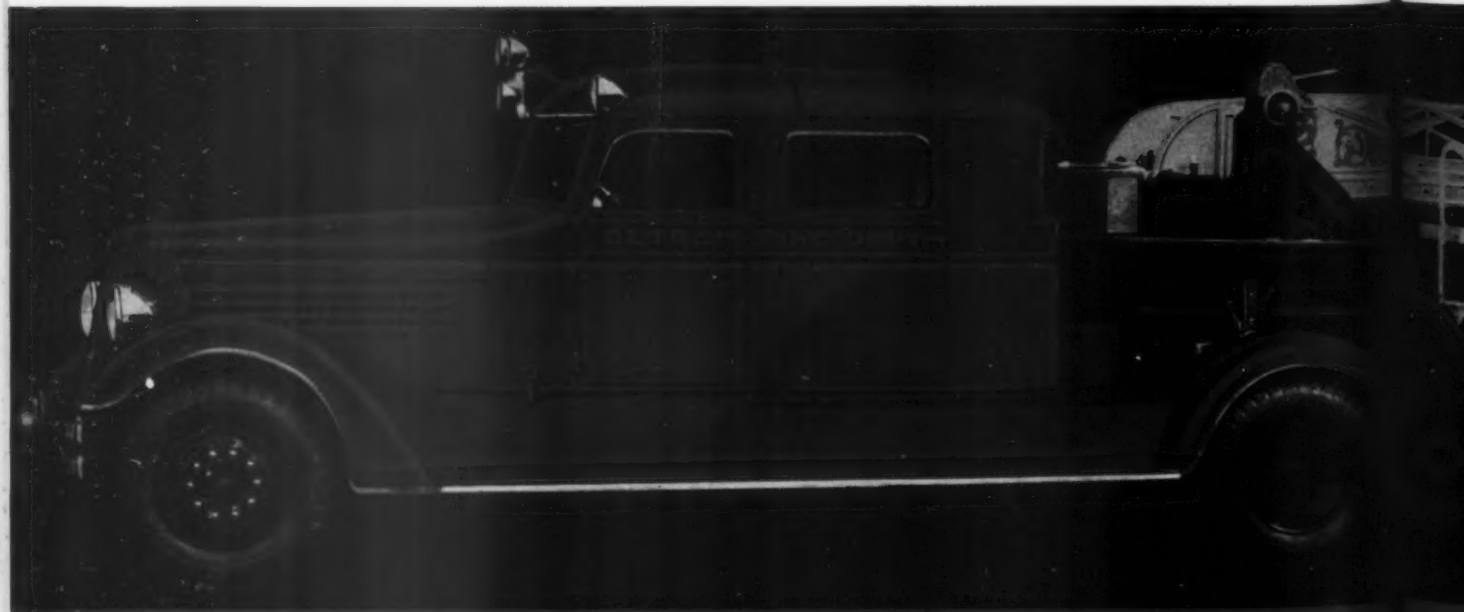
ALL-STEEL AERIAL LADDERS

Arlington, Mass.	Lancaster, Ohio	Richmond, Ind.
Belmont, Mass.	Longview, Texas	Scituate, Mass.
Columbus, Ohio	Lorain, Ohio (2)	Seattle, Wash.
Crawfordsville, Ind.	Lowell, Mass.	Shreveport, La.
Detroit, Mich. (2)	Moscow, Idaho	Silver Spring, Md.
East Providence, R. I.	Mt. Clemens, Mich.	South Orange, N. J.
Fall River, Mass.	Owensboro, Ky.	Sterling, Ill.
Forest Hill, Ont.	Pasadena, Calif.	Suffern, N. Y.
Framingham, Mass.	Portland, Maine	Three Rivers, Quebec
Johnstown, Pa.	Revere, Mass.	Troy, Ohio

Only Modern All-Steel Aerial Ladder sales are listed above.
Hundreds of the old type Seagrave Wood Aerials are in service.

ILLUSTRATION BELOW SHOWS ONE OF THE TWO 100-FT. CAB-TYPE AERIALS JUST BUILT FOR THE CITY OF DETROIT

Detroit also has in service 8 Seagrave Safety Sedan Pumpers



THE SEAGRAVE CO

leads again

THE SEAGRAVE AERIAL LADDER TRUCK WITH SAFETY CAB

The first Aerial Ladder Truck produced with a 4-Door Cab. This cab features all-metal top, safety glass thruout, modern style, and has a seating capacity for 8 men.

The Seagrave Hydro-Aerial is the only 100% hydraulically operated aerial ever built. . . . Equipped with the first all-steel ladder made in America. . . . No bolts. . . . No rivets. . . . No holes drilled. . . . Welded throughout. It is the safest ladder ever produced.

This all-steel ladder is less than a hundred pounds heavier than a wood ladder of the same size, but it has more than double the strength. . . . It may be equipped with a ladder pipe attached to the top section, as illustrated on the opposite page. . . . The ladder having three sections makes possible the shortest truck yet produced. The 100-ft. cab-type Aerial Truck illustrated below is only 56½ ft. long. . . . Think what that means on congested streets and in crowded apparatus room.

Raising . . . lowering . . . extending . . . retracting . . . rotating . . . are all accomplished with smooth, never failing hydraulic power. . . . One man puts the ladder in any position without effort. . . . Auxiliary power for operating the ladder is available if desired.

Powered with the great Seagrave V-12, 240 horsepower motor, the Seagrave Hydro-Aerial represents the last word in modern aerial ladder truck construction, and it may be truly said . . . Seagrave leads again!

THE SEAGRAVE CORPORATION

Rag Fire Causes Four Alarms

One of Baltimore's few serious fires this year occurred on April 24 in a three-story rag warehouse near the center of the city. A passerby saw flames shooting from the windows at 9:15 p.m. and pulled a box.

When the first engine arrived from its quarters six blocks away, the entire building was spouting flames. Chief Doelle of the Second District pulled a third alarm, skipping the second. Deputy George Otter pulled a fourth on his arrival.

Over twenty streams were brought to bear on the fire and nearby exposures. After more than an hour of hard fighting, the blaze was brought under control without spreading. Expansion of rag and paper stock caused the walls to bulge and sections of them were torn down the following day. Cause of the fire has not been determined.

OTIS SMITH.

Rubber Cement Starts 3-Alarm Fire

Three alarms were sounded on the afternoon of April 5 for a very smoky and stubborn fire in the old brick roundhouse at the corner of Massachusetts Avenue and Gerard Street, in the Roxbury section of Boston. This building, formerly housing a gasometer, was three stories in height and was occupied on the ground floor by the Hemenway Express Company and on the two upper floors by the Harvey Tire and Rubber Company, a firm engaged in re-treading old automobile and truck tires. There were about 30,000 old tires stored on the third floor.

The blaze originated when a mixture of rubber cement became ignited and several workmen were forced to flee for their lives. The first alarm was sent in at 4:07 p.m., followed by a second at 4:16 and third at 4:32.

Dense clouds of black smoke poured from the windows of the circular structure. Lines of hose were taken over ladders and fire escapes, and firemen in gas masks took lines inside, but were repeatedly driven out. Streams were directed from ladders; but huge piles of tires in front of some of the windows hampered operations.

Chief Samuel J. Pope directed the firemen, assisted by Deputy Chief Thomas H. Downey. More than five hours were required to subdue the flames and the hosemen suffered severely from smoke and heat. A large crowd gathered to watch the blaze and extra details of police were called out to keep the spectators at a safe distance. The damage was estimated at $15,000.

HARRY BELKNAP.

WHAT'S BURNING

THE following list includes fires of $50,000 loss and over in the United States and Canada, for the month of May, 1937. These figures, compiled from the telegraphic reports, are based on estimates made at the time, and are subject to later investigations and consequent revision. Taken as a whole, however, they are an approximately correct view of the losses incurred. The figures represent loss in thousands of dollars.

Month Ending May 31	Loss in Thousands of Dollars
Knox, Pa.—Whse. of Knox Glass Bottle Co.	$170
Toledo, Ohio—Lumber Yard of Kelsey & Freeman Co., adj. property	80
Long Beach, N. Y.—Castle Baths destroyed	50
Ossining, N. Y.—Property of E. F. Stevenson, Croton Dam Road	60
Coeur D'Alene, Idaho—Sawmill of Atlas Tie Co., 5 miles west	50
Edmonton, Alta.—Village of Norbuck destroyed	100
Pittsburgh, Pa.—Plant of Pittsburgh Box Co. destroyed	80
Lake Ronkonkoma, L. I., N. Y.—Fielder's Hotel destroyed	50
Hancock, Mich.—St. Patrick's Roman Catholic Church and school destroyed	350
Grand Rapids, Mich.—Whse. of Columbian Storage & Transfer Co.	65
Pittsburgh, Pa.—Whse. of Commonwealth Real Estate Co.	75
Villanova, Pa.—Barn on estate of Morris L. Clothier	80
Grand Lodge, Mich.—Main bldg. of Grand Lodge Clay Products Co.	50
Detroit, Mich.—Waterfront property adjacent to Traymore Hotel	80
San Francisco, Cal.—Two waterfront piers damaged	150
Pitkin, La.—Pitkin Grammar School destroyed	50
Tahoe City, Cal.—Calneva Lodge destroyed	200
Greenville, Ohio—Automobile Agency of A. G. Birrell, Inc.	50
Philipsburgh, Mont.—Moorelight Manganese Mill destroyed	100
Arkansaw, Wis.—Waterville Cooperative Creamery damaged	50
Bayonne, N. J.—Two piers and adjacent property	50
O'Neill, Neb.—Plant of Armout Creamery Co., damaged	50
Denton, Tex.—Several business establishments	65
Napanoch, N. Y.—Main building of Napanoch Country Club, destroyed	100
Spring Hill, Tenn.—Tolley Mansion owned by J. L. Haynes	80
Malden, Mass.—Mystic Theatre, damaged	80
Vallejo, Cal.—Property at Mare Island Navy Yards	180
Valley Falls, R. I.—Whse. of Frank Crook Automobile Agency	180
Matapedia, Que.—Village church destroyed	50
Pine Bluff, Ark.—Plant of Riley Food Mfg. Co., destroyed	60
Port Chicago, Cal.—Cannery of Garquinez Fisheries Co.	65
Peterstown, W. Va.—Post office and adj. business property	65
Dumas, Tex.—Plant of Shamrock Oil & Gas Co., damaged	80
Sabinal, Tex.—Barn on Valdina Farms, 10 miles north	50
Atlanta, Ga.—Piedmont Driving Club damaged	65
Allenhurst, N. J.—Loch Arbour Hotel at Deal Lake, destroyed	125
Greenville, Pa.—Garage and service bldg. of A. B. Birrell & Co.	50
Canton, Ohio—Hofbrau and skating rink at Myers Lake Park	50
Spokane, Wash.—Logan School, destroyed	80
Posen, Mich.—Business and residential property	80
Lexington, Ky.—Chesapeake & Ohio Freight Depot, damaged	150
Ft. Washington, Md.—Army transport, General Rucker, damaged	50
Kane, Pa.—Lamont Station of United Natural Gas Co., 4 mi. south	50
Summerville, Ga.—Cleghorn building, housing business establishments destroyed	50

It's Burning Rubber, But the Crowd Don't Seem to Mind

A large quantity of rubber was destroyed in a fire at Roxbury, Mass., which involved the second and third floors of the Harvey Rubber Company plant. Burning rubber is not an odor that would normally hold so large a crowd of people, but then each to his own likes.

Volunteers To Meet at Mineola, N. Y.

The thirty-first annual parade and tournament of the Nassau County Firemen's Association, is to be held at Mineola, L. I., on July 24. The Secretary of the association is James McInnes, Jr., Syosset.

Firemen Burned in Fire House Blaze

Two firemen of Rockford, Ill., were burned while trying to fight a fire which broke out in No. 1 Station, when a match was flipped into a drain in which gasoline fumes had apparently collected. The burst of fire ignited a two-gallon can of gasoline drawn from a fire truck.

The two firemen who were repairing a service truck a few feet from the fire, seized a tarpaulin and tried to smother the fire, but the roaring flames ignited their clothing.

The gasoline fed flames swept up through the partitions to the second floor. Members working upstairs had to flee down the stairs.

Three pieces of apparatus in the fire station were scorched. It was forty-five minutes before the blaze was under control.

TREMENDOUS HEAT OF BURNING HYDROGEN DEMONSTRATED BY HINDENBURG DISASTER

Flames Sweep Through Frame with Amazing Rapidity — Many Theories Advanced for Fire but Authentic Information Is Lacking

NEW YORK CITY had not reached the state where the sight of the German Zeppelin Hindenburg had become a commonplace matter. When the huge gas filled bag floated majestically over the city on May 6, prior to landing at Lakehurst, N. J., there were people on roof tops and in the street to get a good look at the ship and to secretly envy those who were able to book passage.

It was therefore a very much stunned populace that heard news broadcast over the radio but a few hours later that the ship burned up and a large number of persons had lost their lives. Early accounts were very much exaggerated, as was to be expected. All broadcasts from New York City were interrupted as announcers attempted to give brief last minute flashes of the catastrophe. The news seemed almost unbelievable.

In the morning a charred, twisted mass of steel was all that was left of a craft that inaugurated regular trans-Atlantic aerial service.

Eleven passengers and 21 of the crew lost their lives. Twenty-eight passengers and 49 of the crew escaped. No one seemed to know just how the fire started, and there were many conflicting accounts.

The ship was in command of Captain Max Pruss, who had worked with Count von Zeppelin in 1911 and had made 170 flights. He had with him as technical advisers men who were equally as experienced in aviation.

As the boat reached the station at Lakehurst, a sharp thunderstorm came up. At 7:20 p.m., two lines were dropped from the bow of the ship to the ground crew, consisting of a crew of trained naval men and one of trained civilians.

The engines were put in reverse to prevent the ship from over-shooting the mooring mast. The port motor backfired. Suddenly flames broke out from the port stern gondola. In an instant the rear half of the ship was aflame, and the fire spread with amazing rapidity through the hydrogen filled bag. The steel framework buckled and the flaming monster settled to earth. As it did, passengers started jumping from the windows. Little could be saved.

Ambulances and fire apparatus rushed across the field for first aid work. Many victims with clothing burnt off or with bodies badly seared, were guided to first aid stations and later removed to hospitals. The ground crew were highly commended. They rushed towards the flaming hulk to save as many persons as they could reach.

In the words of Commander Charles E. Rosendahl, in charge of the Lakehurst Naval Station, who was an eye witness:

"When I saw the first blaze, I knew the ship was doomed, and I also thought there would immediately be an explosion which would flatten out every building at the field and kill everybody looking on. I thought it was curtains for all of us."

© Acme Newspictures

The Hindenburg Crashes to Earth

Note the ground crew rushing in to help in the rescue work. The ropes for the landing are shown at the left, dangling from the nose.

© Acme Newspictures

As the Hindenburg Descended to Earth, Stern Ablaze

Search for Evidence Commences

It was not until the next morning that the wreck was cool enough to permit a search for evidence and bodies. Three members of the New York Police squad who examined the wreck said they could find no evidence of sabotage.

During an investigation on the cause for the fire, a statement was made that part of a propeller flew off and entered the belly of the ship. But there was nothing to bear this out. It was also stated that there was temporary tackle on a rudder, and this might have torn loose. But what was believed to be temporary tackle was later found to be part of the regular equipment.

The ship was insured for $3,750,000 plus $12,000 for each passenger.

Medal Just Presented to Dr. Hugo Eckener

An ironic part of the incident is that the Daniel Guggenheim Medal award in 1937 was made to Dr. Hugo Eckener for having rendered the greatest service to aviation science. Part of the cita-

tion read, "for ability to continue to make the airship one of the great factors in world air transportation."

Following the accident, considerable attention was directed to the use of hydrogen in the bag for lifting power, and to the fact that the United States had a monopoly on the helium supply of the world. Mention was also made that it was difficult for outsiders to secure a supply of helium.

However, both President Hoover and later President Roosevelt expressed a willingness to sell Germany enough helium for the Graf and its successor, the Hindenburg, to fly the ships for peaceful missions. But the price factor entered the picture. Helium is thirty times as expensive for twenty per cent less payload efficiency.

A sister ship of the Hindenburg is now in the course of construction in Germany.

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After the Zeppelin Had Crashed at the Naval Station

Chiefs Elect Mahoney of Peabody

Chief William C. Mahoney, Peabody, was elected President of the Fire Chiefs' Club of Massachusetts, at the annual meeting which was held in the Parker House, Boston, on May 19.

Chief Frank F. Dickinson, Brockton, was chosen First Vice-President, and Chief Robert M. Tappen, Gardner, was chosen Second Vice-President.

Chief William H. Hill, Belmont, was re-elected Secretary-Treasurer and Chief Manuel Miguel, Manchester, was re-elected sergeant-at-arms.

The following were named as the Board of Directors for the ensuing year: Chief Thomas H. Slaman, Wellesley; Ex-Chief Thomas H. Mahoney, Westfield; Ex-Chief Daniel F. Sennott, Boston; and Chief Herbert C. Root, of Springfield.

The speakers were Building Commissioner Roemer; Chief Albert C. Melendy, Nashua, N. H.; E. S. Coggswell, Deputy Insurance Commissioner, and Chief McCarthy, who was presented with a past-President's badge. Others who talked briefly were Chief George L. Johnson, Waltham; Chief Selden R. Allen, Brookline; Chief Thomas F. Burke, Pittsfield; Chief William J. Dooling, Malden; Chief Edward F. Gorey, Taunton; and Chief Harold J. Conron, of North Reading.

The next meeting of the club will be held on September 15.

HARRY BELKNAP.

Minneapolis Holds Fire School

The tenth annual Northwest Fire School was held at Minneapolis, Minn., from May 3 to 7. Chief William J. Sudieth, St. Paul, was Chairman of the Fire School Committee.

Among the talks given were:

"Cheating the Fire Demon," by Richard E. Vernor, Manager, Fire Prevention Department, Western Actuarial Bureau, Chicago.

"Modern Equipment, Methods and Men," by William DeRohan, Engineer, National Board of Fire Underwriters, Chicago.

Others who spoke were Frank Yetka, Commissioner of Insurance and State Fire Marshal, and A. J. Stromquist, Senior Safety Inspector, U. S. Bureau of Mines, Duluth.

Instruction was given in first aid, engine and pumps, evolution and salvage. The latter was in charge of Assistant Chief Lockhart, Drillmaster, Minneapolis Fire Department, and Capt. J. Townsend, St. Paul Fire Insurance Patrol.

Most of the 190 persons who registered were Chiefs.

A. M. ANDERSON.

M. F. Loughman Dead

Michael Francis Loughman, an honorary Deputy Fire Chief, and a lifelong friend of the New York Fire Department, died at a local hospital at the age of seventy. Flags on all fire houses in the city were ordered at half mast.

His aunt, the late Mrs. Margaret J. Plant Graves, set up funds for free beds for firemen in many of the city's hospitals, and when she died in 1909, he administered the funds.

Mr. Loughman was a native of New York City. He started to go to fires about fifty years ago. Through his interest in the department, he became known to a large number of firemen.

In 1918, he was made Honorary Deputy Chief by order of Commissioner Thomas J. Drennan, in recognition of services extending over a period of more than thirty years.

Since 1928, after resigning as Commissioner of Taxation and Finance in that year, he became an Assistant Vice-President of the Trust Company of North America. For many years, he was a Major in the 22d Engineers, New York National Guard.

He is survived by his widow, two sons, and a daughter.

Long Island Beach Resort Loses Famous Castle Baths

Fire swept through the famous Castle Baths at Long Beach, Long Island, and destroyed the building that was erected before the World War by the famous dancers, Irene and Vernon Castle. High winds carried embers to other buildings, but the small fires were quickly put out before any damage was done. The building, a two-story structure, was located on the Long Beach boardwalk.

College Course in Firemanship

Here is a step further in the education of a fireman. The Oklahoma A. & M. College, Stillwater, has just announced a two-year course in firemanship. Those interested should write to Dean of Engineering, A. & M. College, Stillwater, Oka.

Amplifier for Fire Alarms

Syracuse, N. Y., has a microphone and amplifier system for sending out alarms from the Fire Alarm headquarters. So far, two stations are equipped with receiving sets.

Loud speakers are placed on the side wall of the apparatus floor, and the sound is heard equally as well by those on the second floor.

As every one within range of the amplifier hears the alarm, there is no need to rely on one man. As a further precaution, whenever an alarm is sent out, the house number and the street is given, as well as the name of the nearest intersecting street.

The results with this system have been very gratifying, and the city is contemplating the installation of this system in two more stations on this circuit.

Battle Creek Adopts Retirement Law

(*Continued from page 277*)

years, and all payments to such children shall continue until they attain the age of sixteen years, respectively. Any compensation paid to the widow and children under the Workmen's Compensation Act, so-called, shall be considered as a part of and deducted from the benefits paid to the widow and children under this section. The provisions of this section shall not apply to the widower of any female member of either of said departments, but shall apply to her children under the age of sixteen years.

SECTION 5.—All rewards and proceeds or gifts from any source, and all emoluments that may be allowed by the Commission on account of extraordinary services performed by the members of the Fire or Police Department, all fines imposed upon members of the Fire or Police Department for violation of rules, and two per cent. of the salaries paid to the members of the Fire and Police Departments of the city of Battle Creek and to be deducted by the Commission from such salaries, shall be paid into the retirement fund. All retired members shall pay one per cent. of their retirement pensions into the fund. The balance, if any, necessary for such retirement payments and other benefits, shall be provided for by the Commission of the city in the annual budget, and the Commission shall have the authority within the general tax limits fixed by this Charter, to raise each year by tax on real and personal property, such sums as may be necessary to meet the payments of the pensions and other benefits herein provided. The Treasurer of the city shall credit all monies as received from the Fire and Police Departments, as well as all tax and other monies collected for that purpose, to a fund to be kept by him and known as the "Police and Fire Service Retirement Fund." Such monies shall be used exclusively for the payment of pensions and other benefits as herein provided. No portion of said retirement fund shall, either before or after its order of distribution to any retired fireman or policeman, or to the widow or guardian of any minor child or children of a deceased fireman or policeman, be held, seized, taken or levied on, by virtue of any attachment, injunction, writ, interlocutory or other order or decree, or any process or proceedings whatever, issued out of or by any Court, for the payment or satisfaction in whole or part of any debt, damage, claim, demand or judgment against any such fireman or policeman or the widow or any minor child or children of any deceased fireman or policeman, or guardian thereof, and no pensioner shall have the right to assign his or her retirement fund or any part thereof, but the said fund shall be held, kept secured and distributed solely for the purpose of paying retirement pensions and benefits to the persons named and for no other purpose whatsoever. A fireman or policeman leaving the service by way of resignation or discharge shall not be entitled to receive a refund of any part of the two per cent of his salary theretofore paid by him into such retirement fund.

SECTION 6.—In case of emergency, any retired fireman or policeman may be temporarily recalled to active duty, but shall be required to serve only during such emergency, and when so serving shall receive the pay paid by the city for such rank, same to be in lieu of pension for such period of service. All firemen and policemen retired for disability may at any time be required to be re-examined by the City Health Officer and two other reputable physicians, one to be appointed by the Retirement Board and one by the pensioner as aforesaid, and in case said physicians cannot agree, the findings of a majority thereof shall control. If such re-examination shall show that such retired fireman or policeman is capable of performing his regular duty as a fireman or policeman, the Commission may rescind the resolution placing such fireman or policeman upon the retired list and stop the payment of his retirement pension, and may require him to return to regular duty on full pay, at his former seniority and rank at the time of his retirement. No retired member of either department shall be required to live within the limits of the city of Battle Creek.

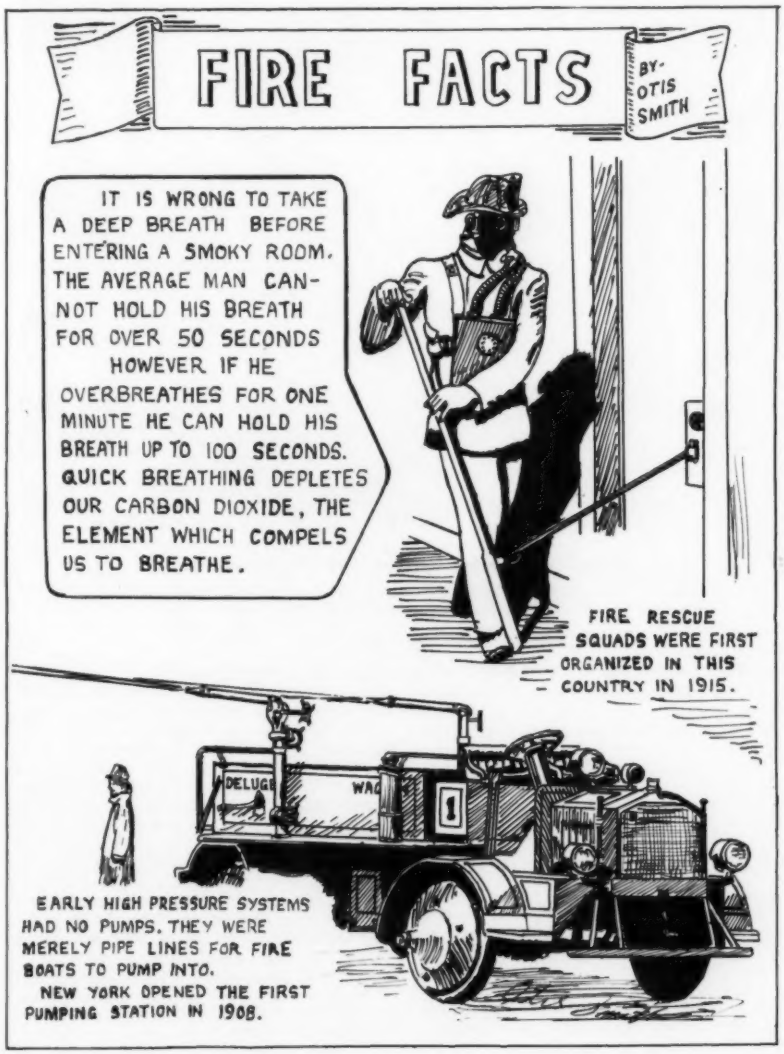
SECTION 7.—The provisions of this chapter, with reference to payments and retirements shall not be construed to apply to special officers, privately employed patrolmen or special firemen. The word "members" as used in this chapter in connection with the Fire and Police Departments shall be construed to include any employee of either of said departments.

SECTION 8.—The provisions of this chapter shall become effective thirty days after the date of adoption by the qualified electors, except the provisions of Section 1 hereof relative to compulsory retirement.

SECTION 9.—Any person who has served as a member of the Fire or Police Department of the city of Battle Creek for twenty-five years, and who is a member of one of said departments at or subsequent to the effective date of this chapter, shall, upon making written application to the Retirement Board, be placed on the retired list without medical examination for disability. If a member of the Fire or Police Department becomes totally disabled while a member of the Fire or Police Department of the city of Battle Creek, he shall be placed on the list of retired firemen and policemen.

SECTION 10.—The Retirement Board shall consist of the Mayor, the Commissioner of Finance, one member to be elected by the members of the Police Department, one member to be elected by the members of the Fire Department, and one member to be chosen by the aforesaid members of the Board. The Mayor and Commissioner of Finance shall serve during their respective terms of office; the members selected by the Fire and Police Departments shall serve at the pleasure of said respective departments, and the fifth member shall serve at the pleasure of the remaining four members.

SECTION 11.—If any section, sentence, clause or phrase of this chapter is for any reason held to be unconstitutional or invalid, such decision shall not affect the validity of the remaining portions of this chapter; it being the intention that the remaining portions of this chapter shall stand, notwithstanding the unconstitutionality and invalidity of any section, sentence, clause or phrase.


FIRE FACTS
BY- OTIS SMITH
IT IS WRONG TO TAKE A DEEP BREATH BEFORE ENTERING A SMOKY ROOM. THE AVERAGE MAN CANNOT HOLD HIS BREATH FOR OVER 50 SECONDS HOWEVER IF HE OVERBREATHES FOR ONE MINUTE HE CAN HOLD HIS BREATH UP TO 100 SECONDS. QUICK BREATHING DEPLETES OUR CARBON DIOXIDE, THE ELEMENT WHICH COMPELS US TO BREATHE.
FIRE RESCUE SQUADS WERE FIRST ORGANIZED IN THIS COUNTRY IN 1915.
DELUGE
EARLY HIGH PRESSURE SYSTEMS HAD NO PUMPS. THEY WERE MERELY PIPE LINES FOR FIRE BOATS TO PUMP INTO.
NEW YORK OPENED THE FIRST PUMPING STATION IN 1908.

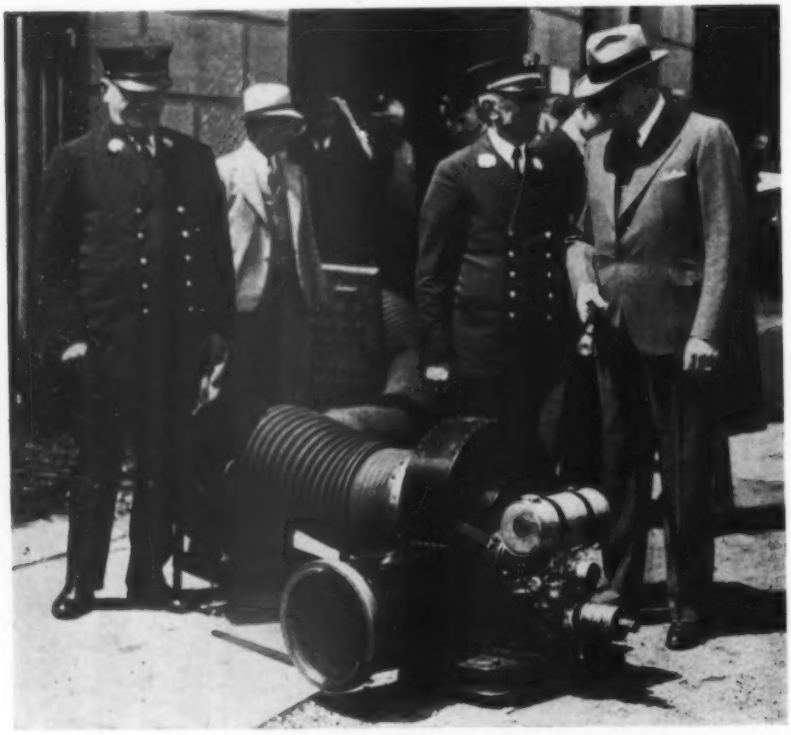
N. Y. Tests Smoke Ejector

Officials of the New York Fire Department witnessed a test of a new type smoke ejector that was held in the basement of an abandoned firehouse next door to Company 206, Brooklyn.

The smoke ejector is the product of the Home Lighting Corporation, Port Chester, N. Y. The smoke suction hose is 12-inch in diameter. By disconnecting the suction and connecting it to another port of the device, the motor can be used to force fresh air into a room, instead of taking gases out.

For the test, a smoky fire was started, using tar paper, rags, oil, etc.

Those present at the test included Commissioner John J. McElligott, Captain Herman Kuch, Deputy Chief James W. Heffernan, and Assistant Chief George L. McKenna. After the smoke ejector was in use for a while, it was possible to enter the cellar without a gas mask.



Smoke Ejector Tested by New York Fire Department

The three men in the foreground, from left to right, are Deputy Chief James Heffernan, Captain Herman F. Kuch and Commissioner John J. McElligott.

Sparks Dine Ellis

The Metropolitan Sparks Club of Boston, Mass., tendered a luncheon on Thursday May 27 to Ben Ellis on his departure to the west.

Mr. Ellis will stop in Buffalo, Toronto, and many cities on his way to Detroit.

This is his annual pilgrimmage when he visits the Fire Departments all along the way and renews his acquaintances with the members of fire companies. This has been his practice for many years.

CORRESPONDENCE

Fire Pictures

To the Editor:

The writer enjoys FIRE ENGINEERING very much, both to be read for pleasure and for the fine articles it contains. It should be—and probably is—in every fire house.

In a recent issue I enjoyed the account of the Montreal Fire Department, finding it especially interesting to read descriptions of the fire forces of other cities.

Some years ago Railroad Stories Magazine initiated an idea of collecting and saving railroad photographs by its subscribers. Monthly lists of collectors were published and there is no doubt but that it added to its circulation list as well as kept old subscribers interested. Would it not be worth while considering FIRE ENGINEERING to foster a move to collect modern and old time fire pictures?

I am picking up views of the South Portland and Portland Fire Departments' apparatus as a hobby and certainly would like an opportunity to contact others interested in this work so as to exchange snaps. As your magazine must be read by a large group of "fire fans" not connected with organized departments, there must be a great number of 3-alarm photographers around who would use your publication for a medium of contact. Anyhow, it's an idea.

Yours very truly,
C. D. H.

* * *

In Defense of Butane

To the Editor:

Your editorial article relative to butane, appearing in January issue of FIRE ENGINEERING has just come to my attention. It happens that in the course of our activities in the design and construction of refineries and absorption plants and allied production units for the manufacture of petroleum products, we have had occasion to handle like equipment for butane.

It has been our observation and experience that this product, handled with adequately designed and properly operated equipment, is as safe as any other storage or transportation equipment handling petroleum products. Naturally, this judgment is based on results to a large degree on the Pacific Coast. We have here in units which we have designed and whose operations we have observed, bus systems, truck operators, stationary units and domestic installations which have been operated during a period of years with no trouble.

Frankly, I feel that your editorial comment is a little unfair to a new product. Going further into the story of a fire referred to in FIRE ENGINEERING, it cannot but be apparent that the disastrous results were due entirely to inadequately designed equipment and entirely incompetent handling of the equipment involved.

Indications throughout the United States, from our observations, have been that butane, or its allied products, can be safely handled in properly designed and operated equipment, hence we feel that your conclusions are erroneous and that a further check should be made before such definite statements are made as are present in your editorial article.

May I suggest that the regulations covering the storage, handling and transportation of liquefied petroleum gases in the State of California have been adequate, and that under the control of the Commission in this state, we have had substantially no more trouble with the liquefied gases than has been observed with the allied products, and that therefore proper regulations might accomplish the ends referred to rather than those indicated in your editorial.

C. L. PARKHILL.

* * *

Water Futile for Soybean Fires

To the Editor:

On page 180 of FIRE ENGINEERING for April, 1937, we note a reference to the use of water on a fire in a tank of soybean meal cake, in Des Moines, Ia. Your correspondent, evidently, sent in a newspaper account, which was not correct.

The fire in question was unusual, but similar fires may be anticipated with growth of the soybean processing industry. We fear readers of your magazine may reach the conclusion that such fires can be extinguished with water, when such is not the case.

We enclose a copy of a report on this fire and call attention to the fact that hose streams were used only as a last resort, and also that the fire continued

to burn after the contents were practically submerged in water.

We believe the account of this fire will be of interest to you.

Yours very truly,
R. E. McLain,
Publisher, Iowa Insurance Service Bureau, Des Moines, Ia.

Editor's Note: The following paragraphs are from the conclusions and recommendations made in the report mentioned:

"The usual methods of extinguishing fire are of little or no value when an active fire develops in this material. Water does not penetrate more than a few inches below the surface of a pile and several times during this fire, smoke continued to rise when a pile was almost submerged in water.

"The use of a spray was of no value, and the added moisture may have been harmful. The dense pasty clinker which forms when the meal burns can scarcely be broken up, and because of the strong draft, intense fire develops when burning clinker becomes lodged at a tank opening.

"There is no positive way of knowing, but it is believed the contents of this tank might have been saved with little loss and without damage to the tank, if the first attempt to use CO_2 ice had been continued without trying to remove any of the contents. This statement is made not as a criticism of what was done, but for the benefit of others who may encounter a similar fire. All operations were experimental, and only good judgment and prompt action prevented serious heat damage and possible collapse of the tank on several occasions. A tight tank is essential to rapid headway in smothering such a fire."

* * *

Placement of Ladders

To the Editor:

With particular interest we noted, in your February issue, the subject of your "Round Table," namely "The Proper Placement of a Trussed Ladder." Interesting, too, were the replies, indicating a wide difference of opinion on this very important matter.

Beyond seeing that proper instructions regarding use are furnished with each of our own ladders, we ordinarily would not inject ourselves into such a discussion. But inasmuch as there is, as stated, a wide difference of opinion on this subject, we are taking the liberty of writing you to express our thoughts on the matter for what they may be worth, and to answer the second part of your question which asks "Which do you think is the better way to place it?"

Trussed ladders fall into two general classes or types. Type 1 we will call those ladders which, as illustrated, have their rungs imbedded in one rail of each truss. This type should be used with the rails, in which the rungs are held, *away* from the wall or building.

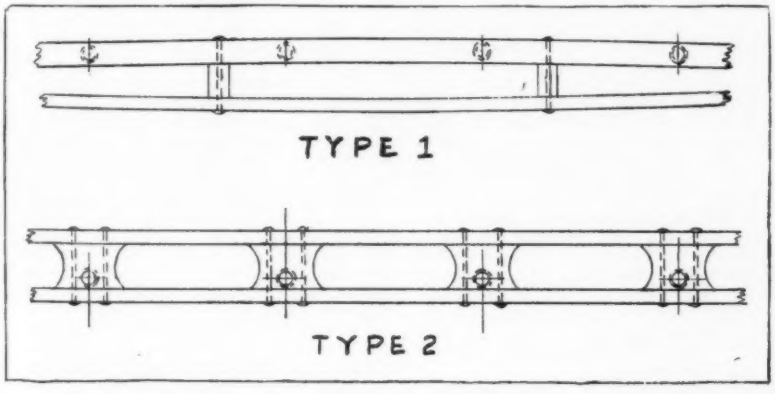
Type 2, which is the standard construction used on all American LaFrance trussed ladders, is that type, as illustrated, in which the rung is mounted in a spacer, which in turn is bolted between the top and bottom rail of the truss, and both rails are of exactly the same cross section. This type of ladder may properly be used with *either* side toward the building. The reasons in back of these answers are as follows:

From the point of view of strength, the distance the rungs of the ladder are off center with respect to the top and bottom rail of the truss, is of no significance. The weight of any one on the ladder acts vertically downward, but this downward force may be resolved into two component forces, one parallel to the ladder, which need not be considered, and one exactly at right angles to the ladder, which is *the* important one. It is because this component force is at right angles to the ladder that the distance and rungs are off center is of no import.

In the type 2 ladder there is no sacrifice of strength in either rail, due to the drilling of holes for rungs, and since the top and bottom rail of each truss are equally strong, from the standpoint of strength, this type of ladder may be used with either side toward the wall. As pointed out in several of the answers in your column, actually it is usually desirable to use this type of ladder with the curved side out, for in this position the rungs are well back from the front of the ladder, and the trusses form a wall on either side of the ladder which serve to prevent hose lines from working off the ladder, and add a feeling of security to the man using it.

In the type 1 ladder the pair of rails in which the rungs are carried is apt to be weaker than the other pair. This is true even though manufacturers of this type of ladder compensate in part for the strength lost by the drilling of the ladder rung holes, by making this pair of rails heavier than the other pair. As a result, it is desirable in the type 1 ladder that the weaker pair of rails, namely the pair carrying the rungs, be so placed that when the ladder is in use they are in compression rather than in tension. This means that the rails carrying the rungs should be used away from the wall or building. Manufacturers of this type of ladder usually advise this procedure in instructions furnished with their ladders, some even marking the ladder to insure it being used correctly.

Very truly yours,
W. M. Price,
Sales Promotion Department,
Fire Protection Equipment Division,
American-LaFrance and Foamite Industries, Inc.



Two Types of Trussed Ladders

* * *

Hose Towers vs. Drying Racks

To the Editor:

In my time in the fire service I have heard much discussion for and against a rack for drying hose.

This is not an expression of my personal opinion, but an actual experience that we had. The hose tower in one of our stations was badly in need of repairs. It was decided to raze the tower and erect a rack in the basement. As the basement did not have much depth, a level rack was erected, with an electric fan at each end. Consequently, some water remained inside the hose. This rack had been in use for a year, when it was discovered that the copper expansion rings in the hose were corroding.

The Bureau of Tests took samples of the water that was in the hose, and disclosed the following: Expansion rings in hose couplings corroded. Water contained 1,520 parts sulphuric acid per 100,000 parts of water. Powder scraped from expansion rings and couplings contained 39 per cent sulphate. Without going into a lengthy chemical discussion, the answer is that the water dissolves small amounts of sulphur compounds from the rubber tube and is oxidized to sulphuric acid. Sulphuric acid readily attacks bronze and was the cause of the corrosion.

I send this with the hope that it may be of value to Chiefs who contemplate the erection of hose racks. Our experience indicates that racks must have sufficient fall in order that the water may completely drain from the hose.

Yours very truly,
N. A. Phelan,
Chief, Pittsburgh, Pa.

* * *

Charge for Fire Protection

To the Editor:

Sharon lies on the Ohio and the Pennsylvania state line. Formerly when there was a fire in the Ohio area, a call would be made to Sharon. There is no water service over there, and if the house burned down, the department would be called all kinds of names.

So the Council decided to charge fifty dollars for service over in Ohio, except where there was an organized fire company. In such cases, the local department was glad to help. But where a local company did not exist, the fee was demanded.

Now when the insurance companies write a fire policy for homes in these unprotected areas, they add a charge of one dollar and notify us that they will pay the fifty-dollar charge should the insured have a fire. The department has an alphabetical list of every home so insured.

Should a fire occur in that region, the

department is notified. If the house is on our list of protected properties, we go without any delay. If not, the officer in charge asks for the fifty-dollar fee.

We have about six hundred insured homes over the line. I believe that this is cheap protection.

Yours truly,
PAUL J. DONLEY,
Sharon, Pa.

Southeastern Chiefs Meet

The tenth annual convention of the Southeastern Association Section of the I.A.F.C., was held at Albany, Ga., on May 10 and 11, with Chief D. W. Brosnan, formerly President of the parent association, as host. As usual, he put on a splendid convention.

President J. Q. Dowling presided at the meeting.

Chief W. W. Stephens, Swan Chemical Company, Anniston, Ala., spoke on

Chief Richard S. Baughan
Norfolk, Va., reelected Secretary-Treasurer.

"Air Conditioning." He said that the chief hazard was from the construction of air ducts throughout the building which in time of fire, served as a flue. He advocated the use of fire-resisting material, and the construction of doors which would automatically shut off the air flow in the ducts in case of fire.

"Cotton Warehouse Fires," were described by Chief John H. Monroe, Savannah, Ga. He urged that automatic sprinklers should be put in every cotton warehouse. He listed as the chief cause of fires in these warehouses, crookedness, spontaneous combustion and static electricity.

Chief D. W. Brosnan, Albany, Ga., spoke on "Use of Fire Department Connections at Cotton Warehouse Fires." He said that cotton should be stored two bales high with the bales on end. At the conclusion of this talk, Fire Marshal Brockwell, of North Carolina, requested that every Chief should be given a copy of this talk, to be gone over with the warehouse men.

Other talks presented at the meeting included:

"Combustibles," by A. C. Hutson, Assistant Chief Engineer, National Board of Fire Underwriters, New York City.

"Benefits to be Derived from State Fire Schools," by Chief J. F. McMillan, Cocoa, Fla.

"Hazards in Manufacturing Plants," by C. M. Johnson, Knoxville, Tenn.

"Water Supply and Distribution," by L. C. Sledge, Assistant Engineer, Southeastern Underwriters Association.

A visit was made to the Cudahy Packing Plant. Ex-Chief Thomas W. Haney, Jacksonville, Fla., was a honor guest at the dinner held at the Radium Springs Club. The meeting ended with a Georgia barbecue.

Chief Dowling, Jacksonville, was presented with a past president's badge by F. L. Andrews, Fire Marshal of Jacksonville, as a gift from the Fire Department of that city.

Chief D. W. Brosnan was presented with a brief case by Chief O. J. Parker, Atlanta, for his work in connection with the Georgia Fire College.

The new officers of the section are Chief O. J. Parker, Atlanta, Persident; Chief C. M. Johnson, Knoxville, Tenn., First Vice-President; Chief Frank W. Bennett, Durham, N. C., Second Vice-President; Chief Richard S. Baughan, Norfolk, was re-elected Secretary-Treasurer.

Texas Passes Pension Bill

Again a firemen's relief and pension fund bill has been passed by the Texas legislature. During the last legislature, a similar bill was passed, but failed to secure the signature of the Governor. The present bill specifically prevents an increase of rates and prohibits the key rate being raised because of the added tax. On these grounds, it is believed that the legality of the step will be contested by insurance interests.

The fund is to be financed through an occupation tax of two per cent, which is in addition to the tax that is now levied on insurance companies. The occupation tax applies to all companies insuring Texas property. The fund will be set up under the State Treasurer and he will proportion the money to local fire organizations.

Only cities having a regularly organized Fire Department and owning fire apparatus worth $1,000 or more may qualify for participation in the fund. Each city will have its own local administration, consisting of the Mayor, City Secretary and three members of the Fire Department. The State Commissioner will be chosen by the Governor from a list proposed by the State Firemen's and Fire Marshal's Association.

Volk Chief of Norwalk

Charles A. Volk, Assistant Chief, Norwalk, Conn., has been named head of the department, to fill the vacancy of Chief G. W. Bogardus, who is to retire on June 1, at the age of seventy-one.

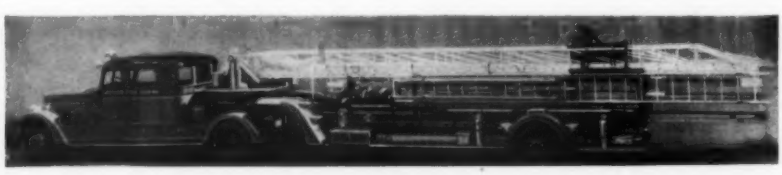
Chief Volk who was born in Norwalk, joined the paid department as an electrician in 1923, and was successively appointed Deputy Chief and Assistant Chief. He is forty-nine years old. He had served as a Deputy Chief in 1921,

Chief Charles A. Volk

when the volunteer department had a deputy for each district.

He has made many improvements for the department. He has unified the fire alarm from three separate systems into one modern unit and has planned it so it can be extended for the next fifty years embracing the entire city. Boxes for every section have been designated and charted. He is also drillmaster of the Fire School and has done much in preparing the men to be better fire fighters.

Chief Volk at one time served on the City Council during the administration of the late Mayor Jeremiah Donovan and was Fire Committeeman of the Council. He is a member of Putnam



New Seagrave Hydro-Aerial Truck

Left—Enlargement of Safety Tillerman's Seat, illustrating sitting position. (Note steering wheel placed on same angle as driver's steering wheel.) Above—The truck, with all-steel ladder, 100 feet; safety cab seats crew of 8 men; motor, V-12, 240 h.p. Overall length of truck, 56½ feet; 55-foot extension extends as far as 100-foot ladder.

MAXIM

"New England's Own" APPARATUS

Honest, Conscientious Workmanship Means a Dependable Job!

RECENT NEW ENGLAND SALES

(Two)—MERIDEN, CONN.
(Two)—REHOBOTH, MASS.
WATERTOWN, MASS.
WESTBORO, MASS.
GRAFTON, MASS.
DIGHTON, MASS.
UXBRIDGE, MASS.
HOLBROOK, MASS.
SHIRLEY, MASS.
CHESHIRE, CONN.
WINDHAM, MAINE
DENNIS, MASS.
FRANKLIN, MASS.
SOMERSET, MASS.
LITTLETON, MASS.
MARION, MASS.
WAREHAM, MASS.
COTUIT, MASS.
CHEPACHET, R. I.
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MAXIM MOTOR COMPANY
MIDDLEBORO MASS.

MAXIM BUILT

PUMPING ENGINES
LADDER TRUCKS
PORTABLE PUMPS
FIRE LADDERS
TANKS
FIRE DEPARTMENT EQUIPMENT

NEW YORK'S LATEST DELIVERY OF FIRE TRUCKS, SHOWN ABOVE, ARE EQUIPPED WITH ATLAS LIFE SAVING NETS

ATLAS LIFE NETS

THE MOST IMPROVED LIFE NET ON THE MARKET!

New York's latest Fire Department equipment comprises Atlas Improved Life Nets! Because their new features make them a "must" with alert Fire Chiefs.
Only six men are needed to hold an Atlas. 32 new shock absorbers eliminate broken wrists, torn ligaments or snapped necks. Frames are lighter and stronger—made of Molybdenum Steel. Half-fold for aerials, quarter-fold for pumpers. In use in leading Fire Departments. Don't fail to investigate these better life nets!

Catalog and Full Details gladly sent on request

When purchasing Trucks, include in your specifications Atlas Improved Life Saving Nets, Half-Fold for aerials, Quarter-Fold for pumpers. The manufacturers of trucks will gladly furnish them.

ATLAS FIRE EQUIPMENT CO.
22 WARREN STREET NEW YORK, N. Y.

THE "CAPTAIN" FYR-FYTER

VAPORIZING LIQUID
ANTI-FREEZE TYPE
ONE GALLON SIZE

With the increased number of Auto, Truck and Bus fires many Fire Departments have made the "Captain" standard equipment.

The new "Captain" is built with a Duplex Pump and Peep Sight Gauge for handy inspection. The Pump Assembly is removable. The container is made of extra heavy brass. The valves are made of non-corrosive Monel Metal. The "Captain" is built sturdy and will stand hard usage. The Vaporizing Liquid (Carbon tetrachloride base) will stand a temperature of 50 degrees below zero before freezing.

We can furnish a special holder for mounting the "Captain" on the running board of the Truck or Fire Chief's car.

(The "Captain" bears the Underwriters' Label.)

Write for our complete catalog of approved extinguishers

THE FYR-FYTER COMPANY
FIRE DEPT. DIV. 101-18 DAYTON, OHIO

FIRE CHIEFS *and* INVESTORS

When we started this business 34 years ago, it was sufficient for investors to hold *only* stocks and bonds. Hence we were interested in protecting only stocks and bonds.

- Today however an investor is taking great risk in buying *only* stocks and bonds. Every conservative business man and investor should today have at least 25% of his funds in real estate, commodities, and other forms of real property.
- In view of the above, we have bought an interest in companies best prepared to protect buildings, merchandise and assets other than stocks and bonds. We are anxious also to help associations and publications which are striving to prevent fire losses.
- For the same reason investors should take more interest in fire protection and back up firechiefs in their plans and efforts. A good fire department is a good hedge against inflation.

BABSON'S STATISTICAL ORGANIZATION, INC.
By ROGER W. BABSON, *President*
Babson Park, Mass.

Hose Company. During the World War he worked in the submarine plant in Bridgeport. He is single and resides with a sister.

The new chief was also a prominent athlete and was star pitcher for the semi-pro Norwalk baseball team.

Fire Hits Stockyards

Fire broke out in the sheep section of the St. Paul Union Stockyards and caused a $260,000 fire. Low water pressure caused the blaze to gain some headway. The decreased pressure was due to fire damage to electric motors in the pumper tower in the yards.

The first alarm was received at 7:17 p.m. Companies responded under the direction of Chief Sudieth and were assisted by packing house company firemen.

The southeast corner of the yards was destroyed. With a stiff wind blowing, it was feared that the entire south part of the yards would become involved.

A. M. ANDERSON.

Heffernan Made Deputy Chief in Charge

Deputy Chief James W. Heffernan, New York Fire Department, was promoted to Deputy Chief in Charge by Commissioner John J. McElligott. Chief Heffernan was second on the list in the test for head of department.

Chief Heffernan joined the department in 1900, at the age of twenty-nine and worked up through the various ranks. His son, William J. Heffernan, is a Battalion Chief in the Ninth Battalion, Manhattan.

Houston To Add to Fire Alarm

Plans are being drawn by Edward A. Brass, Engineer of Shreveport, for additions to the fire alarm system of Houston, Tex. The extensions are estimated to cost $150,000. The plans are to meet the approval of the National Board of Fire Underwriters.

Recently the city passed a $4,100,000 bond issue, in which was included $350,000 for fire stations and fire alarm extensions.

Fires from Heating Haymows Are Peril in Flooded Areas

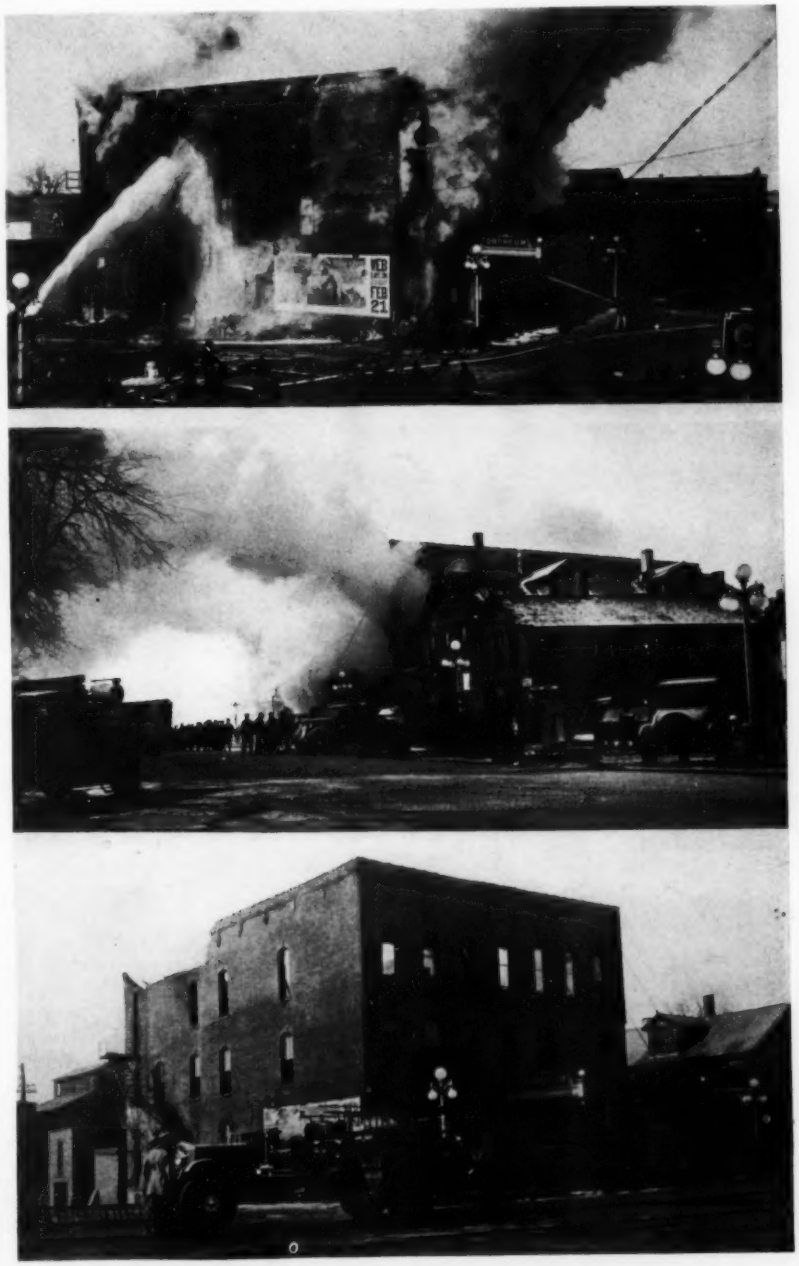
Reports of haymow fires in the Ohio valley are coming in to the U. S. Department of Agriculture as flood waters recede. Dr. David J. Price, of the Bureau of Chemistry and Soils, warns that this is always a danger when stores of hay become wet, and reminds farmers of the barn fires that occurred from heating hay, following the floods in northern Vermont in November, 1927.

At the first indication that hay is heating in barns in the flooded area, Dr. Price says that farmers should begin keeping close watch. The emission of water vapor, pungent and irritating odors, or the presence of hot, wet areas of "flues" on the surface of the mow are warning. The first thing to do is to make a check on the temperature down in the mow before deciding on what action to take.

Usually the internal temperature of the hay can be taken by driving a sharp pointed pipe down into it, and lowering the thermometer inside the pipe and leaving it there for about 20 minutes. The reading should be made quickly when the thermometer is removed.

The ignition temperature of alfalfa hay is around 390° F. There is no experimental evidence, however, that such a high temperature is required for the outbreak of a fire. If the temperature climbs to 185° F., it is definitely reaching a point of danger which warrants stopping all ventilation, and removing the hay from the barn, although, if left undisturbed, it might cool eventually.

If the temperature climbs to 200° F. there should be no question about the advisability of removing the hay. Before this is done, however, Dr. Price warns that all possible precautions against fire should be taken. This is one instance where the regular order should be reversed. The Fire Department should be called out before the fire starts.



Three Stages of a Fire Which Destroyed a Theatre Building in Savanna, Ill.

Fire, which started in the basement, destroyed the Law Building, Savanna, Ill., which housed the Orpheum Theatre. The fire was started in an oil fired furnace, and the second fire to be started in this building by the same furnace. The blaze had considerable headway. Even though the adjoining buildings were of wood construction, no loss was suffered by these occupants. Trucks were commandeered to move out the contents of the frame buildings. A hose salesman who was in Clinton at the time, loaned a monitor nozzle to fight the fire. Local firemen were assisted by a pumper and crew from the Savanna Ordnance Depot, and by Chief Krens, seven men and a pumper from Clinton, Ia.

Hot Hay should not be uncovered or removed without first wetting it thoroughly, otherwise, when it is exposed to the air, it is likely to burst into flame.

In removing hay that has reached the advanced stages of heating, Dr. Price suggests the following precautions:

1. Place planks over the surface of the mow, especially in the center. This is to provide sound footing if it is found that the central portion of the heap has has charred and sunk.
2. Avoid inhaling fumes and gases from the "hot" pockets and flues in the mow. Arrange for the inside work to be done with frequent shifts of workers and allow them as much fresh air as possible.
3. Carry the hay a safe distance from the barn or other buildings, preferably to an open field, to guard against any fire that may result if the hay bursts into flame.

Canton Tests 3 New Pumpers

Three 750-gallon pumpers, built for Canton, Ohio, in accordance with standard specifications, by the Ahrens-Fox Fire Engine Company, Cincinnati, were tested recently. The engines are six-cylinder motors, 5¾-inch bore by 6-inch stroke. The minor side of the piston pump has a displacement of 1.223 gallons and the major side, 1.889 gallons, giving a combined displacement of 3.112 gallons.

Following are performance figures of one of the engines tested:

Test	W.H.P.	Gates	Pumps
1.....	52.5	Throttled	Both
2.....	70.	"	"
3.....	102.8	Wide open	"
4.....	98.7	Throttled	"
5.....	111.8	Wide open	"
6.....	116.9	"	"
7.....	104.3	"	"
8.....	99.5	"	"
9.....	125.3	"	Major
10.....	130.6	"	"
11.....	107.8	"	"
12.....	133.3	"	Minor
13.....	105.8	"	Both
14.....	113.1	"	"

Nozzle	Pump Pressure	G.P.M.	Speed Motor	Speed Pump
1¾"	120	750	1010	248
2"	120	1000	1430	351
2"	150	1175	1950	479
2"	150	1128	1700	418
2"	175	1095	1675	412
2"	200	994	1400	344
1¾"	220	813	1120	275
1¾"	225	803	1100	270
1¾"	300	716	1710	420
1½"	350	640	1500	369
1½"	400	462	1020	250
1½"	450	508	1900	467
2"	155	1170	1770	435
2"	160	1212	1660	408

Pimlico Track Endangered

The big grandstand at Pimlico race track, Baltimore, Md., was in danger for a time, when fire destroyed a nearby stable. A stable boy discovered the blaze at 7.58 p.m., on May 8. Four companies of the Baltimore Fire Department responded to a box alarm. When they arrived the fire had assumed such large proportions that a third alarm was sounded, followed shortly after by a fourth.

Meanwhile the stable was the scene of great excitement, as horses were forced from the blazing stalls. Some of them escaped into the streets and galloped among the spectators until captured. Sixteen race horses were killed as a result of the fire. They were valued at around $40,000.

Although the grandstand was only sixty feet from the stable, it escaped ignition, due to lack of wind and the composition roof on the stable. Twelve engines and two trucks worked at the fire, bringing it under control in thirty-two minutes. Origin of the fire has not been determined.

OTIS SMITH.

When Water Causes Fire

While water is commonly used in fighting fires, strangely enough, it causes indirectly a large share of the farm fires occurring throughout the United States, according to Dr. David J. Price, fire and explosion specialist of the U. S. Bureau of Chemistry and Soils.

Fire caused by water, Dr. Price explained, is better known under a more technical name—spontaneous ignition. Bacteriological and chemical action influenced by water is likely to cause the ignition of hay, cattle feeds, fertilizers, and other farm products when stored in barns, farm buildings, or any kind of storage place.

The bureau's record of farm fires contains many strange stories. For instance, the average person possibly could not well imagine a fire starting in an ice house. Yet, in the bureau's files is a record of an ice house burning to the ground after the sawdust had become wet from a heavy rain followed by a period of very warm weather. The fire started from spontaneous ignition.

The records contain accounts of many other strange happenings, including a fire starting in a carload of mixed feed while in transit. The feed had a high moisture content and again spontaneous ignition started the flames. Similar fires have been reported when fertilizers were in storage or shipment. A check showed that in each instance the fertilizer had a high moisture content.

Furthermore, Dr. Price said, water is not always a safe thing to use in fighting certain types of fires. It is a possible indirect cause of terrific explosions. This might happen when a full stream of water at high pressure knocks loose accumulations of dust or stirs up piles of finely ground combustible materials, which is likely in fighting fires in industrial plants. The flames ignite the dust cloud. The best procedure in the face of such hazards, Dr. Price said, is to use a vapor spray nozzle instead of the full pressure stream.

Too, there is the ever-present danger of water combining with some other substance and forming a combustible gas. An example of this, Dr. Price pointed out, is when water comes in contact with burning aluminum powder. Hydrogen gas is formed and an explosion may follow.

When dust is encountered in fire fighting, the bureau chemical engineer advised caution in the use of water. This is especially true in factories manufacturing metallic powders and it is best for such establishments to have large quantities of dry sand in suitable containers as a part of their fire-fighting equipment.

Ahrens-Fox Pumpers Tested at Canton, Ohio.

Firemen Save Paralytic

A twenty-five year old man owes his life to the persistent efforts of a group of firemen of Omaha, Neb. The man, suffering from periodic paralysis was rushed to a local hospital and when his breathing became weak, doctors called the department's rescue squad. The firemen maintained artificial respiration.

Volunteers Meet at Laurel, Del.

Firemen from the tip of the Virginia Capes to the northern boundaries of Delaware, gathered at Laurel, Del., to attend the annual convention of the Delmarva Firemen's Association.

The new officers are E. L. Jones, Chincoteague, President; R. M. Carey, Princess Anne, Md., Vice-President; Fred Brown, Wilmington, Del., Second Vice-President; E. P. Schultz, Onancock, Va., Secretary, and W. A. Karpa, Cape Charles, Treasurer. The next convention will be held May 11, 1938 at Onancock, Va.

BUT *how soon* WAS THE ALARM TURNED IN?

WHEN fire breaks out—even in a sprinklered property—the fire department must be summoned instantly. But *who* will turn in the alarm . . . and *when?*

A.D.T. Supervision eliminates all doubt by making the sprinkler system an *automatic fire alarm.* The instant a sprinkler head opens, or a serious leak occurs, the fire department is automatically summoned direct to the premises . . . to help extinguish the fire . . . to turn off the water when the fire is out . . . to minimize damages by prompt salvage measures.

During the past ten years, fire and water losses in properties protected by A.D.T.-Supervised sprinklers have averaged less than three cents per hundred dollars of insurable values. A.D.T. Central Station Sprinkler Supervisory and Waterflow Alarm Service is available in 350 cities; elsewhere, Waterflow Alarm Service is available with direct-to-fire department connection. Descriptive booklet sent on request.

A.D.T. SPRINKLER SUPERVISORY AND WATERFLOW ALARM SERVICE

Controlled Companies of **AMERICAN DISTRICT TELEGRAPH COMPANY**
155 SIXTH AVENUE NEW YORK, N. Y.

A·D·T

A NATION-WIDE PROTECTION SERVICE AGAINST FIRE, BURGLARY AND HOLDUP

Clear the Way by Night or Day!

Even the heaviest traffic is cleared for your apparatus by Buckeye "Warning Signals that Warn".

ROTO-RAYS have three powerful revolving red lights that compel attention.

MOTO-RAYS sweep danger out of your way with the wide-sweeping motion of the red beam.

The Buckeye EXHAUST WHISTLE sounds above the heaviest traffic roar and clears the way for you.

Complete details gladly sent on all Buckeye fire department equipment.

BUCKEYE IRON & BRASS WORKS
324 East Third St. Dayton, Ohio

BUCKEYE
Shut-off Nozzles · Roto-Rays · Whistles

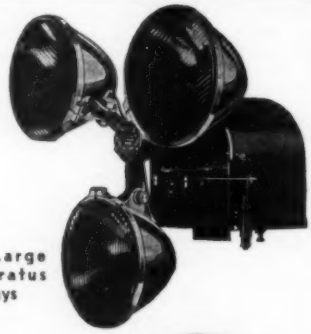


Fig. 931 — Large type apparatus Roto - Rays

Fig. 937 Heavy - Duty Exhaust Whistle

Fig. 950 Moto - Rays

A HOSE THAT'S STRONGER, LIGHTER, MORE COMPACT!

LIN-LINED FIRE HOSE

DEALERS WANTED

The new Lin-Lined Fire Hose is stronger than ordinary hose because it has a rot-proof *linen lining* instead of the old-fashioned rubber lining. Is lighter and handles easier and faster than the old type. Will stand greater pressure and is mildew-proof. Rolls or folds compactly immediately after usage — *without drying!* And Costs Less!

Write for details.

AMERICAN FIRE HOSE COMPANY
SOUTH & 6TH STS., PASSAIC, N. J.

Shuredry **SALVAGE COVERS**

City of Montgomery
Alabama
May 3rd-'37

Fulton Bag & Cotton Mills,
Atlanta, Ga.

Gentlemen:

We consider Salvage Work one of the most important branches of our work and we practice and study it continuously.

Your Shuredry covers fill our requirements exactly as they are good material and long lasting and their flexibility and ease of handling greatly accelerate our work at times when speed is so necessary.

Yours very truly,

C. L. Ingram

C. L. Ingram, Chief Fire Dept., Montgomery, Alabama.

Reduce WATER DAMAGE *and* INSURANCE RATES

Salvage work not only reduces losses but is a big factor in keeping the public sold on department efficiency. Protected furniture and stock bring many letters of commendation to Fire Departments equipped with Shuredry Salvage Covers.

Write today for full information, samples and prices.

Fulton Bag & Cotton Mills
Manufacturers Since 1870
ATLANTA ST. LOUIS DALLAS
MINNEAPOLIS BROOKLYN NEW ORLEANS KANSAS CITY, KAN.

Brophy Marks 30 Years' Service

Thomas P. Brophy, Fire Marshal, New York Fire Department, completed thirty years' service.

Originally he was a newspaper reporter and covered fires in Brooklyn. His news beats on fires and thorough

Thomas P. Brophy

investigations attracted the attention of Commission Frank Lantry in 1907.

Soon after Mr. Brophy was appointed Assistant in the office of the Fire Marshal on May 17, 1907, he uncovered evidence that resulted in the capture of a Williamsburg arson gang that specialized in stable fires. Recently he was commended by Mayor La Guardia for solving a series of fires that broke out in the West End Synagogue and were set by a janitor.

Mr. Brophy is a bachelor and lives with his mother and two sisters in Brooklyn.

Chief Haggerty, Berkeley, Feted

Chief George Haggerty, veteran fireman, who worked from the position of driver in the paid department of 1904 to Chief in 1927, was feted when he arrived at the tenth year as head of the Berkeley, Cal., Fire Department on May 1, 1937.

He is also President of the Veteran Volunteer Firemen's Association, a body of over 100 old timers who served as fire fighters before October 1, 1904.

For the purpose of protecting motor boats and docks and piers at the recently completed Berkeley Yacht Harbor, largest man made yacht harbor in America, the fast motor boat "Ajax" was equipped with powerful Byron Jackson fire pump. It is now maintained at the harbor, which when completed, will accommodate approximately 1,000 yachts and motor boats.

Yacht Harbor and the new Aquatic Park nearby were thrown open to the public recently with a three-day celebration.

Chief Haggerty, when a young man of 23, started pulling the rope on the hose reels; in 1902 he was rewarded with an appointment as "Call Man" which meant that he slept in the fire house and drew a monthly stipend of $5.

In 1904 the town donated a horse and George became a driver at $70. a month; 1906 saw him a captain; 1908 a Battalion Chief; 1916 Assistant Chief. He succeeded G. Sidney Rose, who lost his life while in service.

CHARLES W. GEIGER.

Scouts Meet in Fire House

Chief Edward W. Gieselman, Syracuse, N. Y., and the Mayor have endorsed a plan whereby Boy Scout troops will be formed under the direction of fire companies in the city.

A troop is now meeting in the station of Engine 6, and other companies are to be formed.

Fire houses will be open to troop members for assembly purposes and for recreation on meeting nights. Handball courts are available in the down town fire houses.

Several members of the department who will have charge of the scout companies to be formed, are now taking courses in Boy Scout work.

Horner Heads Nassau Council

W. E. Horner, Baldwin, N. Y., was elected President of the Nassau County Fire Chiefs' Council. The other officers are Robert J. Murray, Woodmere, Vice-President; Joseph J. Scully, Point Lookout, Secretary; Peter N. Ross, Garden City, Financial Secretary; William Kirk, Inwood, Treasurer.

Melbourne Government Plant Razed

Fire, believed to have started from an electric short circuit, started a fire at the Government Cool Stores, at Victoria Dock, Melbourne, Australia, which destroyed the cold storage plant at a loss estimated at $2,000,000.

The plant, the largest in the southern hemisphere, was built during the war, and covered five acres. The part known as the B Section was destroyed. The plant was constructed of hardwood with an inner lining also of wood. In between was shavings for heat insulation. Had the fire occurred a week before, the loss would have been considerably more, for then the storage plant was filled with export carcasses.

Chief Officer J. T. Wilins said that it was the hottest fire he ever attended. It was also on the hottest day of summer. It is claimed to be the most serious fire in forty years of Melbourne history. Shipping was endangered.

Premier Dunstan praised the fine work of the firemen but condemned the poor water supply, and he also said that the day for the wooden building had ended.

View of Fire at Melbourne, Australia, Which Destroyed the Government Cool Stores, Victoria Dock

Connecticut Firemen Meet August 13-14

The 54th annual convention of the Connecticut State Firemen's Association is to take place at Derby, Conn., on August 13 and 14.

New Mexico Firemen Meet

At the annual convention of the New Mexico State Firemen's Association the officers elected were: President, Chief J. E. Wickham, A. T. & S. F. Ry. Co., Albuquerque; 1st Vice-President, Chief J. B. Fish, Estancia; 2nd Vice-President, Chief I. J. Stockwell, Carlsbad; 3rd Vice-President, Chief J. A. Richards, Artesia, and Secretary-Treasurer, T. A. Rosenwald, Albuquerque (re-elected).

Memphis Has New Alarm Plan

The use of loud speaker equipment for dispatching fire companies, has been put in use at Memphis, Tenn. Chief Irby Klinck said that the new system was designed by Lieut. D. C. Miller and Dispatcher Edward J. Nelson.

The heart of the system is a visible card index of about 11,500 cards. All box or telephone alarms are received at the fire alarm headquarters. The operator looks up the location on one of the cards and from that learns what companies are to be dispatched. He calls each of the companies individually and broadcasts the alarm through a loud speaker device so that all in a fire station will hear the alarm.

Special color cards are used for special buildings such as schools and industrial buildings where the risks are greater. When the complete system is in operation, it is believed that apparatus will be speeding on its way but a fraction of a minute after the alarm is received.

Manufacturers' Announcements

Carbon Dioxide Fire Protection

Walter Kidde & Co., Bloomfield, N. J., has issued a sixteen-page brochure in color, "108 Extra Values." The booklet explains every phase of "Lux" carbon dioxide fire protection equipment.

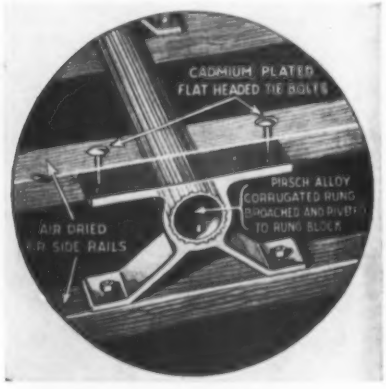
It has also issued a four-page folder in color on "The Fire Extinguishers that Save Recharging Dollars." The water in this extinguisher is discharged by pressure from a cartridge of carbon dioxide gas.

Quaker Fire Hose Users

Quaker City Rubber Company, Philadelphia, Pa., has issued a small booklet giving a partial list of cities and towns that have purchased Quaker fire hose.

Two New Types of Ladders

Peter Pirsch & Sons Company, Kenosha, Wis., has announced two newly developed ladders, one of all metal construction, and the other an insulated wood-metal ladder.



Details of Brace for Rung

In each case, the rungs are held to the uprights by means of a special metal fitting. The rungs are of an alloy, and are made with longitudinal corrugations for a firmer tread. These rungs are broached and then riveted to the rung blocks. With the new designs, the ladders are much lighter and are said to have a much greater strength and life.

Tarment Incinerator

Dover Stamping & Manufacturing Company, Cambridge, Mass., is distributing a small folder to describe the Tarment incinerator, invented by a Fire Chief, and demonstrated before New England Fire Chiefs.

Sealand Corporation Formed

The Sealand Corporation, builders of fire control products, including Garrison fire detecting systems, and fire pumpers has been organized under the laws of Connecticut. The new company will supply and install fire detecting systems in ships, and public and private buildings, and will supply fire control products and Waterous pumpers throughout southern New England. The address of the company is 544 Iranistan Avenue, Bridgeport, Conn.

Firemen's Equipment

Cairns & Brother, 444 Lafayette Street, New York City, has issued Catalogue 29, which describes their line of fire helmets, firemen's clothing, banners, insignia, etc. It contains forty-eight pages and a large number of illustrations.

Heavy Duty Extinguishers

Pyrene Manufacturing Company, 560 Belmont Avenue, Newark, N. J., announces heavy vehicle type Pyrene extinguishers with special shock absorber to withstand excessive vibration. These one and 1½-quart size extinguishers qualify under I. C. C. safety regulations.

Combustible Gas Indicator

Mine Safety Appliances Company, Thomas and Meade Avenues, Pittsburgh, Pa., announces a four-page illustrated folder to describe the MSA combustible gas indicator. A dial on the instrument indicates the per cent explosiveness of the gas and the concentration that is not safe for men.

Life Saving Nets

A number of departments including that of New York City, it has been reported, have adopted the Atlas nets as standard equipment, and are placing the half fold on aerial trucks, and the quarter-fold on pumpers and emergency cars.

The makers claim that jumps were made into the net from heights of from 25 to 45 feet, and life sized dummies of 125 pounds were thrown from heights of 100 feet without damaging the net, or straining the men holding the net.

The net is made by the Atlas Fire Equipment Company, New York City.

Fischer New Chief of Providence

Deputy Chief John H. Fischer, of the Providence, R. I., Fire Department, has been named Chief to succeed Frank Charlesworth, who became Fire Marshal of Rhode Island on May 3. Chief Fischer is the oldest man in point of service in the fire-fighting forces of the city, and has completed his 40th anniversary as a fireman. He was appointed to the department on May 18, 1897, was promoted to Lieutenant, December 1, 1906; Captain, May 5, 1911; Battalion Chief, March 3, 1923, and Assistant Chief, November 16, 1924.

Chief John H. Fischer

New Apparatus

Kings Park, N. Y., is awaiting the delivery of a Ward-LaFrance quadruple hook and ladder truck. It is to have a 500-gallon pump and a 100-gallon water tank.

Chateaugay, N. Y., has purchased a 500-gallon American-LaFrance pumper, with a 300-gallon water tank. The apparatus will have a cab and is believed to be the first cab-type apparatus in that section. Elmer Hobb is Acting Chief.

Pumper Delivered to Milford, Conn.

A 500-gallon pumper, equipped with a 100-gallon booster tank was delivered to Milford, Conn. The pumper carries 1,000 feet of 2½-inch hose and 600 feet of 1½-inch hose.

STOP FIRE LOSS!
with
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FIRE PUMPS
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CONVENTION DATES

June 15-16—MINNESOTA STATE FIRE DEPARTMENT ASSOCIATION. 65th Annual Convention, Armory, Crookston, Minn. Secretary, Fred Pfaender, New Ulm, Minn.

June 15-16—NORTH DAKOTA STATE FIREMEN'S ASSOCIATION. 53rd Annual Convention, Walhalla, N. D. Secretary, Heinie Hamptman, Bismarck, N. D.

June 15-18—ILLINOIS ANNUAL FIRE COLLEGE. 13th Annual College, University of Illinois, Urbana. Director, Prof. L. H. Provine, of the University; Secretary, Asst. Chief Roy W. Alsip, Champaign, Ill.

June 16—NORTHWESTERN OHIO VOLUNTEER FIREMEN'S ASSOCIATION. 64th Annual Convention, Defiance, Ohio. Secretary, J. W. Gardner, Ashland, Ohio.

June 16-19—WASHINGTON STATE FIRE CHIEFS' ASSOCIATION AND WASHINGTON STATE FIREMEN'S ASSOCIATION. 5th Annual Convention, Chiefs, and 15th Annual Convention, Firemen's Association, and Anual State Fire College, Everett, Wash. Secretary, Chiefs, W. A. Groce, Spokane, Wash.; Firemen, Lyle J. Ficklin, Kalama, Wash.

June 17—SOUTH CAROLINA STATE FIREMEN'S ASSOCIATION. Election of Officers only (convention cancelled), Columbia, S. C. Secretary-Treasurer, Chief John H. Wohlers, Charleston, S. C.

June 18—FIRE CHIEFS' EMERGENCY PLAN. Next Meeting, Weaver Street Fire Headquarters, Town of Mamaroneck, N. Y. Secretary, Captain Howard Geer, Rye, N. Y.

June 22-24—NEW ENGLAND ASSOCIATION OF FIRE CHIEFS. 15th Annual Convention, The Balsams, Dixville Notch, N. H. Secretary-Treasurer, Chief John W. O'Hearn, Watertown, Mass. Chairman, Exhibit Committee, Chief Albert C. Melendy, Nashua, N. H.

June 23-25—MARYLAND STATE FIREMEN'S ASSOCIATION. 45th Annual Convention, Easton, Md. Secretary, George R. Lindsay, Hagerstown, Md. Chairman, Exhibit Committee, J. M. Van Buren, Easton, Md.

June 24-26—GREAT LAKES FIRE CHIEFS' ASSOCIATION. Annual Convention, Green Bay, Wis. Secretary, Chief R. R. Mottesheard, Dearborn, Mich.

June 24-26—OREGON FIRE CHIEFS' ASSOCIATION. Annual Fire School and Conference, Medford, Ore. Secretary, Thomas Coates, Tillamook, Ore.

June 28-30—NEW YORK STATE CONFERENCE OF MAYORS AND OTHER MUNICIPAL OFFICIALS. Annual Meeting, Saratoga, N. Y. Executive Secretary, William P. Capes, City Hall, Albany, N. Y.

June 28-30—ASSOCIATED MUNICIPAL SIGNAL SERVICES. 3rd Annual Convention, Elizabeth-Cartaret Hotel, Elizabeth, N. J. Acting Secretary, William F. Frankin, 420 Lexington Ave., New York City.

July 1-2—NEVADA STATE FIREMEN'S ASSOCIATION. 2nd Annual Convention, Sparks, Nev. Secretary, E. R. Simms, Sparks, Nev.

July 3—MERCER COUNTY FIREMEN'S ASSOCIATION. Field Day and Gala Fireworks Spectacle.

July 6-8—KENTUCKY FIREMEN'S ASSOCIATION. 18th Annual Convention, Corbin, Ky. Secretary, Captain V. A. Bean, 2215 W. Broadway, Louisville, Ky.

July 6-9—PROVINCE OF QUEBEC POLICE AND FIRE CHIEFS ASSOCIATION. 5th Annual Convention, Rivière du Loup, Que. Secretary-Treasurer, Robert Harrington, Chief, Fire Department, McColl-Frontenac Oil Co., Ltd., Suite 8, Windsor Hotel, Montreal, Que.

July 7-10—COLORADO STATE FIREMEN'S ASSOCIATION. 21st Annual Convention, Fire College and Tournament, Glenwood Springs, Col. Secretary, Clinton Turnbull, 215 Boston Bldg., Denver, Col.

July 10—NEW JERSEY AND NEW YORK VOLUNTEER FIREMEN'S ASSOCIATION. Annual Convention, Montvale, Park Ridge and Pearl River. Secretary, Charles T. Mortimer, Sunset Ave., Haworth, N. J.

July 11—UTAH STATE FIREMEN'S ASSOCIATION. Quarterly Meeting, Midvale, Utah. Secretary, John J. Creedon, Bingham Canyon, Utah.

July 12-15—FLORIDA FIRE COLLEGE. 8th Annual College, Daytona Beach, Fla. Secretary, Chief F. C. Pfaender, Winter Haven, Fla.

July 12-15—MICHIGAN STATE FIREMEN'S ASSOCIATION. 63rd Annual Convention and 9th Annual Fire College, Luddington, Mich. Secretary, Charles V. Lane, Charlotte, Mich.

July 13—STATE ASSOCIATION OF FIRE CHIEFS OF MAINE. Quarterly Meeting, York, Me. Secretary-Treasurer, Ex-Chief C. W. Bowker, South Paris, Me.

July 13-14—MARITIME FIRE CHIEFS' ASSOCIATION. 23rd Annual Convention, Charlottetown, Prince Edward Island. Secretary-Treasurer, George P. Ryder, St. Stephen, N. B.

July 21-22—INDIANA FIRE CHIEFS' ASSOCIATION. 11th Annual Convention, Michigan City, Ind. Secretary, Archie McCabe, Muncie, Ind.

July 21 and 24—NASSAU COUNTY FIREMEN'S ASSOCIATION. July 21, Mid-Summer Meeting, Fire Headquarters, Baldwin, L. I., N. Y.; July 24, 31st Annual Parade and Tournament, Mineola. Secretary, James McInnes, Jr., Syosset, L. I.

July 26-29—WEST VIRGINIA FIRE SCHOOL. 7th Annual Fire School, Morgantown, W. Va. Address, D. L. McElroy, Director of Fire Service, Extension Schools, Morgantown.

July 28-29—WEST VIRGINIA STATE FIRE CHIEFS' ASSOCIATION. 6th Annual Convention, Morgantown, W. Va. Secretary-Treasurer, Ray Lister, Salem, W. Va.

Aug. 2-4—UTAH STATE FIREMEN'S ASSOCIATION. 37th Annual Convention, Midvale, Utah. Secretary, John J. Creedon, Bingham Canyon, Utah.

Aug. 3-5—WISCONSIN PAID FIREMEN'S ASSOCIATION. 30th Annual Convention, Wisconsin Rapids, Wis. Secretary-Treasurer, William H. Schultz, Sheboygan, Wis.

Aug. 5-7—MONTANA STATE FIREMEN'S ASSOCIATION. 46th Annual Convention, Anaconda, Mont. Secretary, Robert J. Thorburn, Billings, Mont.

Aug. 9-10—IDAHO STATE FIREMEN'S ASSOCIATION. 23rd Annual Convention, Lewiston, Ida. Secretary-Treasurer, George Westcott, Kellogg, Ida.

Aug. 9-12—NORTH CAROLINA STATE FIREMEN'S ASSOCIATION. 50th Annual Convention, Greensboro, N. C. Secretary, John Miller, Concord, N. C.

Aug. 10-12—MICHIGAN STATE FIRE CHIEFS' ASSOCIATION. Annual Convention, Bancroft House, Saginaw, Mich. Secretary and Chairman, Exhibit Committee, George F. Danbury, Grosse Pointe Farms, Mich.

Aug. 10-12—VIRGINIA STATE FIREMEN'S ASSOCIATION. 51st Annual Convention, Charlottesville, Va. Secretary, O. W. Dabney, Staunton, Va.

Aug. 10-13—VIRGINIA STATE FIREMEN'S ASSOCIATION. 9th Annual Convention, Charlottesville, Va., with State Firemen's Association. Secretary-Treasurer, E. H. Rouse, Orange, Va.

Aug. 11-14—PACIFIC COAST ASSOCIATION OF FIRE CHIEFS. 44th Annual Convention, Spokane, Wash. Secretary Jay W. Stevens, State Fire Marshal of California, Merchants Bldg., San Francisco, Cal.

Aug. 13-14—CONNECTICUT STATE FIREMEN'S ASSOCIATION. 54th Annual Convention, Sterling Theatre, Derby, Conn. Secretary, David W. Harford, 10 Chestnut St., South Norwalk, Conn.

Aug. 15-18—NEW YORK STATE PERMANENT FIREMEN'S ASSOCIATION. 19th Annual Convention, Amsterdam, N. Y. Secretary-Treasurer, Frank A. Emden, 1403 Mather Ave, Utica, N. Y.

Aug. 17-21—FIREMEN'S ASSOCIATION OF THE STATE OF NEW YORK. 65th Annual Convention, Potsdam, N. Y. Secretary, Fred A. Davis, Fort Edward, N. Y.

Aug. 18-19—MISSOURI ASSOCIATION OF FIRE FIGHTERS. Annual Convention, Springfield, Mo. Secretary-Treasurer, M. J. Mulvoy, 3500 South Grand St., St. Louis, Mo.

Aug. 24-26—DOMINION ASSOCIATION OF FIRE CHIEFS. 29th Annual Convention, Oshawa, Ont., Can. Secretary-Treasurer, Chief James Armstrong, Box 56, Kingston, Ont.

Aug. 30-Sept. 2—NATIONAL MUNICIPAL SIGNAL ASSOCIATION. 42nd Annual Convention, Hotel Statler, Cleveland, Ohio. Secretary-Treasurer, Irvin Shulsinger, 7 East 42nd St., New York City.

Sept. 7-9—MARYLAND FIRE COLLEGE. 8th Annual Fire College, University of Maryland, College Park, Md. Director, Prof. S. S. Steinberg, Dean, Engineering College; Assistant Director, T. W. Venemann, Maryland State Firemen's Association; Secretary, G. F. Pollock, President's Office, University of Maryland.

Sept. 7-9—TENNESSEE FIREMEN'S ASSOCIATION. 7th Annual Convention, Springfield, Tenn. Secretary-Treasurer, Joe J. Martin, Fire Headquarters, Nashville, Tenn.

Sept. 8-9—DELAWARE VOLUNTEER FIREMEN'S ASSOCIATION. 17th Annual Convention, Dover, Del. Secretary, S. H. Carson, Dover; Chairman, Convention Committee, W. W. Pettyjohn, Dover.

Sept. 9-11—CUMBERLAND VALLEY VOLUNTEER FIREMEN'S ASSOCIATION. Thirty-sixth Annual Convention, Duncannon, Pa. Secretary, C. L. Jacobs, Waynesboro, Pa.

Sept. 14-15—IOWA FIREMEN'S ASSOCIATION. 60th Annual Convention, Atlantic, Ia. Secretary, Paul A. Soener, Independence, Ia.

Sept. 17-18—NEW JERSEY STATE FIREMEN'S ASSOCIATION. 60th Annual Convention, Atlantic City, N. J. Secretary, Evan F. Benners, 602 Chamber of Commerce Bldg., Newark, N. J.

Sept. 27—TEMISKAMING FIREMEN'S ASSOCIATION. 22nd Annual Convention, Amos, Que. Secretary-Treasurer, F. E. Thompson, Box 686, New Liskaard, Ont.

Sept. 27-30—CALIFORNIA STATE FIREMEN'S ASSOCIATION. 15th Annual Convention, Redding, Cal. Secretary-Treasurer, H. E. Strasser, 3404 32nd St., San Diego, Cal.

October — ARKANSAS STATE FIREMEN'S ASSOCIATION. 16th Annual Convention, Little Rock, Ark. (Exact date to be announced later.) Secretary-Treausrer, H. D. Compton, Little Rock, Ark.

Oct. 5-7—FIREMEN'S ASSOCIATION OF THE STATE OF PENNSYLVANIA. 58th Annual Convention, Philadelphia, Pa. Secretary, Chief Charles E. Clark, Box 217, Wayne, Pa.

Oct. 6-7—ALABAMA STATE FIREMEN'S ASSOCIATION. Second Annual Convention, Montgomery, Ala. (State Fire College to be held just prior to convention.) Secretary-Treasurer, George E. Crosett, Chief Dispatcher, 1916 Sixth Ave., Birmingham, Ala.

Oct. 12-14—ILLINOIS FIREMEN'S ASSOCIATION. 50th (Golden Anniversary) Convention, Danville, Ill. Secretary, Assistant Chief Roy W. Alsip, Champaign, Ill.

Oct. 19-21—NEBRASKA STATE VOLUNTEER FIREMEN'S ASSOCIATION. Annual Convention, North Platte, Neb. Secretary-Treasurer, Louis A. Novak, Box 788, Norfolk, Neb.

Oct. 19-22—INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. 65th Annual Conference. Headquarters, Biltmore Hotel, and Exhibits and Sessions, New Municipal Auditorium, Oklahoma City, Okla. Secretary-Treasurer, Ex-Chief James J. Mulcahey, 16 Franklin Ave., Yonkers, N. Y.; Chairman, Exhibits, Chief Ray Tiller, Waterloo, Ia.

Department and Other Reports Received

Province of British Columbia—Fourteenth annual report of the Fire Marshal of the Province of British Columbia, Canada; twenty-two pages.

Beverly Hills, Cal.—Annual report of the Fire Department, Beverly Hills, Cal.

South Carolina State Firemen's Association—Proceedings of the thirty-first annual convention of the South Carolina State Firemen's Association held at Camden, S. C., June 10 and 11; thirty-nine pages.

Colorado State Firemen's Association—Proceedings of the sixth annual fire college and twentieth annual convention and tournament of the Colorado State Firemen's Association held at Manitou Springs, Col.; sixty-four pages.

Westchester Chiefs Hold Eightieth Meeting

On the evening of Wednesday, May 26, the Fire Chiefs' Emergency Plan of Westchester County, New York, held its ninth annual dinner, and its eightieth meeting at Tuckahoe, Eastchester Township.

As with previous annual affairs the business session was curtailed and subordinated to entertainment, which was staged at Murray's Inn, on the Bronx River Parkway. The only important business of the meeting was the election of the entire slate of officers for the ensuing year, as recommended by the nominating committee. The election, by acclamation, carried the following into office for another twelvemonth:

President, Chief Roi B. Woolley, Larchmont; First Vice-President, Chief Edward Barth, Elmsford: Second Vice-President, Chief Bernard Cropsey, Greenville; Treasurer, Assistant Chief Edward Siller, Yonkers; Secretary, Captain Howard Geer, Rye; Sergeant-at-arms, Captain Cornelius Falsch, Port Chester. Directors for one year: Fred Langloh, Rye; Theodore Outhouse; Ossining; John Brennan, Pelham Manor, and Commissioner Earl Krows, Hastings-on-Hudson; Directors for two years: Chief John J. Reilly, Yonkers; Chief Richard LeVino, Weaver Street, Town of Mamaroneck; Sheldon Gilleo, Montrose and Rowland Doughty, Briarcliff.

The Nominating Committee consisted of Commissioner Earl Krows, Chairman; Judge Wiley Travis, Peekskill, and Chief Arthur Steuhl, Eastchester. The Entertainment Committee, in charge of details of the affair was headed by Judge Travis, assisted by Chief Arthur Chambers, Yonkers; Former Secretary Walter Dawkins, Port Chester; Captain Falsch, Chief Van de Water, Hastings-on-Hudson and Chief William Livingston, Tarrytown. The President acted as Toastmaster and made the only address of the evening.

President Woolley, in a spirited talk, pointed out the fact that the "Plan" now in its ninth year had functioned successfully on over 30 occasions, wherein the fire losses were held below $1,000,000 with property at risk running well over one billion dollars. That the losses would have been many times greater without the mutual aid rendered by members of the "Plan" is admitted by everyone familiar with its operation. Furthermore, President Woolley stated, the low loss in spite of the number of large fires requiring assistance, was achieved without the financial help of any community or interests other than the members of the "Plan."

President Woolley continued:

"It is time that the organization was properly and adequately financed so that the work can be carried forward. The dues of $2 per active and associate member, and the small sum received as dues from manufacturer representatives, hardly pays the running expenses. Money is needed to extend the training and business features and to relieve some of the smaller communities of the burden (small as it is) placed upon them for entertaining the 'Plan' at its business sessions therein." Chief Woolley with the directors has been working on methods to finance the organization, and he explained that at the next meeting a strong committee would be appointed to review the various ideas put forth and to present recommendations to the members at a later meeting.

"The time has come," he said in closing, "when the maintenance and furtherance of the Fire Chiefs' Emergency Plan should be an obligation on the county it serves, and local communities should not have to contribute financially toward its upkeep and development beyond the natural mechanical and physical operation of the 'Plan' in its work of rendering aid. It is asking a great deal of fire officers to not only give their time and service in the common cause, but to pay for the privilege of doing it out of their own pockets."

Many guests were present at the dinner, several of whom were introduced and spoke a few words in commendation of the "Plan." Among them were Assistant Chief George McKenna, Deputy Chief John Spencer and several other officers of the New York City Fire Department; Captain Wm. Cashman, in charge of the training school of the New York Fire Patrol; Fire Commissioner McNamara of Eastchester (who welcomed the "Plan" to Tuckahoe). Former President James Sullivan, of Greenwich, Conn., and James Mulcahey, former Chief of Yonkers department, and Secretary of the International Association of Fire Chiefs, also spoke briefly.

The next meeting of the "Plan" will be held June 16 at the Weaver Street Fire Headquarters of the town of Mamaroneck Fire Department, Chief Richard LeVino acting as host.

Luncheon Tendered Fire Officials of New York Institutions

The American District Telegraph tendered a luncheon to New York state institution fire officials at the Huron Club on April 21. Among those present were: 1. Walter J. Dawdle, Elmira Reformatory; 2. F. McLaughlin, Sing Sing Prison; 3. Harry J. Mitchell, Dannemora N. Y. Clinton Prison; 4. Irving G. Gifford, Matteawan State Hospital; 5. Robert C. Nyuhel, Inst. of Male Defective Delinquents, Napanoch, N. Y.; 6. Howard W. Byrns, Auburn Prison, Auburn, N. Y.; 7. Jerry Daly, FIRE ENGINNEERING; 8. L. Bloom, Westfield State Farm, Bedford Hills, N. Y.; 9. Thomas J. Devlin, Dannemora State Hospital, Dannemora, N. Y.; 10. Daniel McCann, Great Meadow Prison, Comstock, N. Y.; 11. A. Ryerson, Bedford Hills, Westfield State Farm; 12. Geo. T. Ahern, Great Meadow Prison, Comstock, N. Y.; 13. Lloyd V. Wilklow, Inst. for Defective Delinquents, Napanoch, N. Y.; 14. D. L. Alloway, Attica State Prison, Attica, N. Y.; 15. A. W. Sullivan, American District Telegraph Co., New York City; 16. Willard D. Baker, Varysburg, N. Y. Attica State Prison; 17. P. W. Rarimer, A. D. T. Co., New York City; 18. Thomas A. Larkin, Municipal Bldg., New York City; 19. George L. McKenna, Assistant Chief, New York Fire Dept.; 20. J. J. Heavey, A.D.T.; 21. H. G. Cavanagh, A.D.T.; 22. Frank Gillespie, A.D.T. attached to N. Y. F. D.; 23. M. W. Rayens, A.D.T.; 24. Austin D. Keables, N. Y. State Vocational Inst., West Coxsackie, N. Y.; 25. W. N. Longleway, Wallkill Prison, Wallkill, N. Y.; 26. Warner Johnson, Albion State School, Albion, N. Y.; 27. William Hadden, Woodbounek; 28. F. Schurstedt, Elmira Reformatory; 29. Leo T. Curry, Wallkill State Prison, Wallkill, N. Y.; 30. James F. Doyle, Auburn State Prison, Auburn, N. Y.; 31. J. Wallace Eggleston, Albion State Training School; 32. Maxwell H. A. Lindsay, Eng. Dept. A.D.T. Co.; 33. Henry C. Ahrens, N. Y. State Vocational Inst., Coxsackie, N. Y.; 34. John Tobin, Sing Sing Prison, Ossining, N. Y.; 35. Victor B. Hoyt, Mattrawan State Hospital, Beacon, N. Y.; 36. Major Timothy S. Mahoney, Fire Alarm Telegraph Bureau; 37. Arthur D. Roberts, Asst. Elec. Eng. Dannemora State Hospital; 38. J. J. Ruiz, Dannemora, N. Y.; 39. Dean E. Wright, Woodbourne F.D.D., Woodbourne, N. Y.; 40. John C. O'Reilly, A.D.T. "Transmitter."

H. C. Schrage Re-elected

Henry C. Schrage, Waterloo, Ia., was re-elected for the third term President of the Iowa State Association of Fire Fighters at the annual convention held at Burlington, Ia.

Clarence Chappelle, Sioux City, was elected First Vice-President; Melvin Thompson, Cedar Rapids, Second Vice-President; William Hottell, Des Moines, was re-elected Secretary-Treasurer. The next convention will be held at Dubuque.

Fairfield Chiefs Hold Annual Banquet

The annual banquet and meeting of the Fairfield County Fire Chiefs' Emergency Plan was held at the Stratfield Hotel, Bridgeport, Conn., on the evening of Wednesday, May 26 with over 200 present. The election of officers was held early in the evening the result being the same as the list of nominations published in the May issue, on page 253. President Stapely immediately turned the gavel over to President-Elect Bernard Scully, of Westport, who assumed the chair. A handsome pair of binoculars was presented to the retiring President by the members.

President Scully then called upon Joseph Lopez, Manager of Radio Station WICC, Bridgeport, to act as Toastmaster and Master-of-Ceremonies. He called upon Mayor MacLevey, who welcomed the members. Several others were also called upon for speeches—limited to one minute—among them being First Selectman King W. Mansfield. Westport, Conn.; George Wellinton, President, Bridgeport Fire Commissioners; Chief Victor Veit, Stamford; Ex-Mayor Buckingham, Bridgeport; Mayor Frank Statz, and Ex-Chief Bogardus, Norwalk, and Robert H. Lockwood, Associate Editor, FIRE ENGINEERING.

A very excellent entertainment was interspersed between the speakers.

The SEALAND CORPORATION
FIRE CONTROL PRODUCTS

MOTOR FIRE APPARATUS
WATEROUS PUMPS
GARRISON ALARM SYSTEMS
Automatic — Supervisory — Manual

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BRIDGEPORT, CONNECTICUT

WATEROUS FIRE PUMPS
CENTRIFUGAL · ROTARY

WATEROUS COMPANY - ST. PAUL

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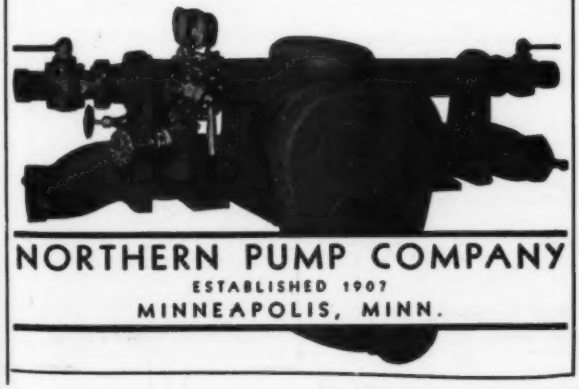
FIRE HOSE

A complete line, including
Wax Treated - Solid Multiple Woven
AND
Single and Double Jacket Hose
Manufactured by
HEWITT RUBBER CORPORATION
BUFFALO, N. Y.
"Territories Available"



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MINNEAPOLIS, MINN.

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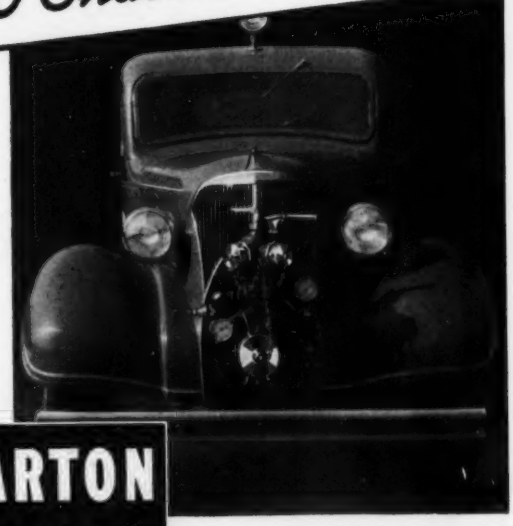
NO Chassis Change!



BARTON FIRE PUMPS

GEAR DRIVE

NOTHING FINER — Barton U-Type Fire Pumps (as shown above) are regularly equipped with built-in Gear Drive—truck motor operates at approximately ONE-HALF pump speed. With pump wide open and discharging at 250 lbs. pressure, motor loafs along—NO RACING—NO STRAIN! Long motor life assured. U-Type Pumps are built in 350, 400, 500 and 600-gallon sizes.

Also available 400, 500 and 600-gallon F-Type Pumps (Direct Drive) at LOWER PRICES—also small Barton Booster Fire Pumps at still lower prices!

TEN years have passed since the first Barton Fire Pumps went into service—and these first pumps are still making good—for we maintain the highest standards and use the finest materials money can buy.

"How is it then that a Barton Pump saves so much in first cost?"—a fair question, frequently asked. The answer is found in our unique design and in our method of mounting.

For any capacity rating, a Barton Centrifugal Pump is smaller and more compact than older types. You buy no excess weight—no expensive gadgets. Lower cost, naturally!

But that's only half the economy story! Because of Front-Mounting (see above), a special expensive truck is not required. *Any size Barton Pump can be used on a standard truck—completely installed and ready for service without a single chassis change, costing only a few dollars for mechanic's labor.*

UNDERWRITERS' TESTED

Barton Fire Pumps meet and exceed Underwriters' requirements. They handle clean or DIRTY water. They are Automatically Primed. And there's a size for every need. Write for details today!

AMERICAN STEAM PUMP COMPANY
BATTLE CREEK, MICHIGAN
PUMPS AND PUMPS ONLY SINCE 1873

FIRE CHIEFS-

from MAINE TO CALIFORNIA...

When the pressure gets high and action at fever heat, Fire Chiefs want one thing—Hose that will not burst.

Quaker Fire Hose is now being used by hundreds of cities and towns. Many Chiefs, from New York City to Hopkin's Corner, know from actual use that they can depend on Quaker.

Flat Cured — Wax and Gum Treated Fire Hose. Chemical Hose, Fire Engine Suction Hose. Send for samples and prices.

QUAKER CITY RUBBER CO.
Serving the public for over 50 years.
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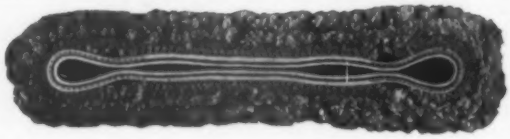
Bi-LATERAL FIRE HOSE



Note how it flattens. In recent test-runs made with two pieces of apparatus of the same make, one loaded with Bi-Lateral hose, the other loaded with the heavy stiff specification hose, everyone was surprised at the handicap the stiff hose gave the firemen in fighting their fires.

Hose is used to convey water from the source of supply to the fire.

BI-LATERAL will get it there quicker. Let us tell you about it.

BI-LATERAL FIRE HOSE COMPANY
20 North Wacker Drive Chicago, Illinois

CRACKERJACK FIRE HOSE

The hose with an unsurpassed reputation for QUALITY and SERVICE that has made it the STANDARD OF THE WEST for over 25 years.

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Dealers in All Parts of the Country

Highly Endorsed by Fire Chiefs Everywhere!

Chief Henry of Lexington, Ky. writes:

"The 'Fire Chief's Handbook' is the work of one of vast experience. Every fireman should have a copy for study and reference."

Chief Gambrell of Dallas, Texas writes:

"It is very instructive and helpful. We find this book very convenient to refer to in our school work."

THE FIRE CHIEF'S HANDBOOK

By FRED SHEPPERD

In Collaboration with the EDUCATIONAL COMMITTEE *of the* INTERNATIONAL ASSOCIATION OF FIRE CHIEFS

THERE have been books on fire-fighting, but never anything so complete and authoritative as the "Fire Chief's Handbook." This book, a gold-mine of practical, helpful data, gives a reliable, up-to-the-minute answer to almost every question that might come up in modern fire-fighting practice.

For progressive fire chiefs, interested in up-to-date fire fighting methods, the "Fire Chief's Handbook" will be a mighty valuable reference guide. It gives to ambitious fire department officers and men, in plain, understandable form, information that should prove extremely helpful in preparing for promotional examinations. In fact, it is a book every fighter needs and ought to have. *The Edition is Limited—Better Order Your Copy Today.*

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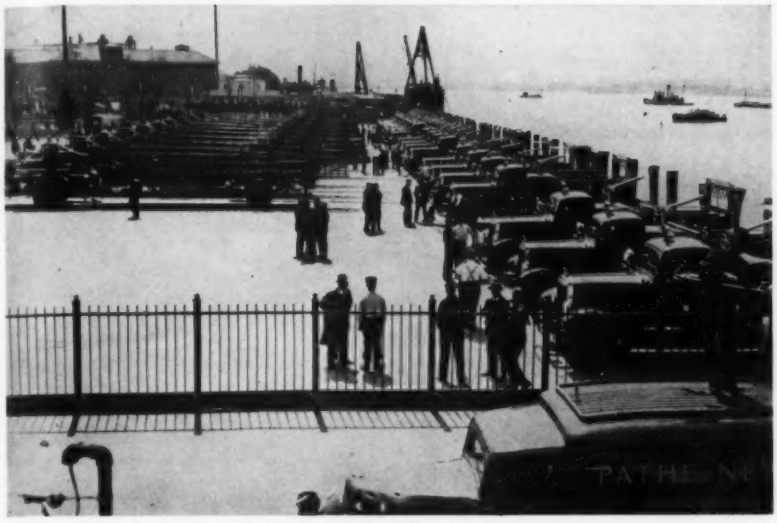
—and Many Other Things



Fire Apparatus Lined Up at Sea Wall Before the Demonstration

N. Y. Firemen Stage Show of New Apparatus

While thousands from the nearby office buildings looked on, the New York Fire Department staged a spectacular show, as it demonstrated twenty-nine pieces of new fire apparatus to Mayor LaGuardia and other city officials on the lower end of Manhattan.

The demonstration climaxed a parade of nineteen Mack pumpers and ten Seagrave ladder trucks, from the department's repair shops at Long Island City to the Battery.

Following inspection of the apparatus, Commissioner McElligott ordered the show to begin. The pumpers were lined up at the seawall behind the Aquarium, and the fireboat John J. Harvey patrolled the vicinity to warn away small boats. They operated at a rate of 1,000 gallons per minute.

After the pumper demonstration, the Seagrave trucks raised their 85-foot ladders with a fireman standing on the tip of each one. The pumpers started to function again and streams shot out from the top of each ladder. The recoil from the nozzle sent the men swinging back and forth on the ladders. Sirens screamed, and the New York Fire Department Band played. Truly, it was a most unusual show.

The pumpers were described in detail on page 194 of the April issue. Each Seagrave ladder truck carries a Homelite generating plant.

Regional School Held at Middletown

Twenty-one firemen from different departments in Middlesex County registered for the first Regional Drill School for Fire Departments in Connecticut. It was under the direction of Capt. Hjalmar Johnson, assisted by Private Merritt Solger.

The school was opened by Chief Lawton, who gave a brief talk. Others who spoke included Captain William Russell, Waterbury, Assistant Chief Harris, Meriden, Chief Weir, East Hampton, Chief Holmes, East Berlin, Chief Brooks, Haddam, and Drillmaster Healy, Willimantic.

The local committee in getting the school started was assisted by Chief Tierney, Arlington, Mass., Chief McCarthy, Worcester, and Herman Hall, of the Connecticut State Trade School.

Rhode Island Chiefs Meet

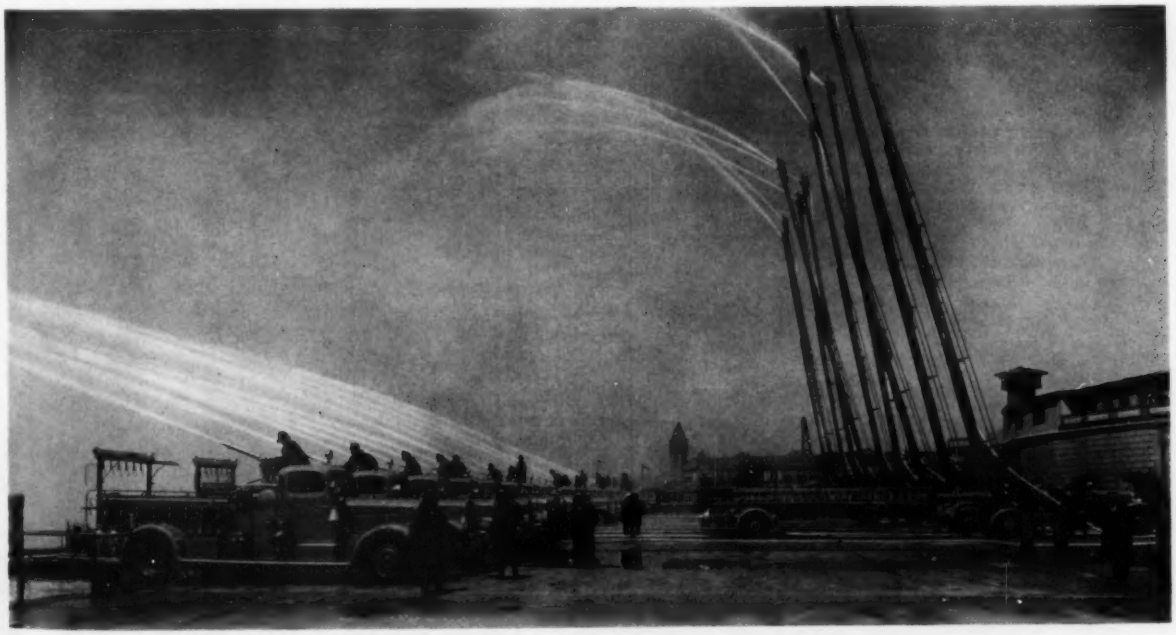
Wilfred J. Paquin, Chief, Rhode Island Motor Vehicle Division, was the speaker at the meeting of the Fire Chiefs' Club of Rhode Island, held in Arctic, West Warrick, on May 13, with the Pawtuxet Valley Firemen's League as host. Frank Charlesworth, State Fire Marshal and former Chief of Providence, presided.

The speaker told of safety on the highways and especially the operation of fire apparatus of volunteer Fire Departments. He cited two recent accidents, in which members of volunteer companies were injured, while on the way to a fire.

The club passed a resolution approving the action of Gov. Robert E. Quinn in appointing Chief Charlesworth, Fire Marshal.

The next meeting will be held on June 12, with the Narragansett Pier Fire Department as host.

A. Robert Black.



The Show Is On! New York City Demonstrates Its New Apparatus

FALSE ALARMS

—Drawing by "Art" Espey

Must be the same Chief who suggests lots of "wells" to communities without water works systems.

NO SEE, NO SPEAK

The Chief was determined. The new theatre had to have a center aisle running across the auditorium, to better fire protection. The owner fought against the plan, because it reduced the seating capacity.

As he could make no headway with the Chief, he called on a political boss. He broached the subject in this manner:

"Joe, if you was to have a ten-dollar bill over each eye, could you see?"

"I could not," said Joe. "And if I was to have one in my mouth, I couldn't speak."

As the cow with the calf remarked, "Just one thing after an udder."

SAVED ANYWAY

He was a member of the department's first aid squad. To him, life was but one first aid problem after another, and he thoroughly enjoyed it.

He was assigned to serve as inspector at a hotel dance one evening. The assignment was most welcome, for it meant a few extra dollars.

Coming out on the balcony, he noticed a couple necking. She had her arms tightly about the youth's shoulder. Quickly she withdrew her arms.

Later in the evening he met the youth in the wash room, and recognized him. The fireman remarked:

"Let's see. You are the fellow that earlier in the evening I saved from strangulation."

It isn't the girl that counts. It's what she stands for.

MOUNTING FINANCES

Off went the alarm in the station. In less than a minute the boys were off in answer to the alarm. While the station was deserted, some fellow in the street walked in, went through a few lockers, and ran off with some money. He was apprehended and brought before a judge.

The judge was indignant, after he had heard the firemen's story.

He said, "Do you mean to tell me that you committed such an injustice for a paltry three dollars?"

"Well, judge, you know how it is. Three bucks here and three bucks there —it soon mounts up."

Then there was the Scotchman who called up his sweetheart to find out what night she was free.

NOT ADJUSTED

A number of girls and their escorts from the summer colony motored over to attend the dance in the firemen's hall. They wanted something different.

However, the volunteers didn't mind. They enjoyed seeing some girls who brought with them the freshness of the big cities.

A passable fellow was dancing with one of the newcomers.

She remarked, "Does my gown look as though it were falling off my shoulder?"

He looked.

"Naw. Let's continue the dance."

"I'm sorry, but I must go and rearrange it. It's supposed to look that way."

The bare leg fad is all right as far as it goes.

WARNING

Those who attend conventions must look as well as listen. Those who don't keep their eyes open, as they wander down the corridor, may find themselves in the Ladies Room.

MEMORY TRAINING

Efficiency experts always tell of something that they have developed for training the memory so that they will keep tabs on the things that they are supposed to do. The wealthy person hires a secretary, whose duty it is to do the reminding.

But the system that is the simplest and perhaps the best is the one adopted by the old darky who often called at the station to sell tamales.

He never tries to remember to do anything at such a date or time. He just lolls around in complete relaxation. He has figured it out that if there is anything he really has to do, some one will come around and make him do it.

A Broadway gold digger confided to a friend that she was wishing for some old-fashioned butter and egg men like her mother used to make.

TRIALS OF THE INSPECTOR

During Fire Prevention Week, certain members of the Fire Department were assigned to make a house to house check for fire hazards.

At one of the houses, a little girl was seated on the front porch. The gate was stuck.

"Mother at home, little one?" he inquired.

"Yes sir, she's always at home," she replied.

The fireman jumped the gate and rang the doorbell. There was no response. He rang it several times more and waited. The door remained closed. Somewhat vexed he turned to the youngster and asked:

"Didn't you say your mother was at home?"

"Yes sir, and I'm sure she is."

"Then why doesn't she answer my ring?"

"I think she will when you reach our house," came the reply. "We live four doors down the street."

—Drawing by "Art" Espey

"Looks like we're goin' to catch a jelly fish in our landin' net, eh, fellers?"

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M·S·A LIGHTWEIGHT HALF-HOUR OXYGEN BREATHING APPARATUS

Here's the lightest and most compact Facepiece-type Oxygen Breathing Apparatus made—*weighs only 14¾ lbs. complete.* Uses the famous Kops-type facepiece . . . easily-adjusted, gas-tight and full-visioned. Perfectly balanced on the body; almost as light and easy to wear as a canister-type mask; provides normal working freedom, minimum breathing resistance and 100% respiratory protection in any unbreathable atmosphere for at least half an hour, even under great exertion.

● The M. S. A. Lightweight Half-Hour unit has attained nation-wide popularity because it *best* meets today's needs in fire-fighting and rescue work. *Let us demonstrate it for you. We'll gladly arrange to do so upon request.*

MINE SAFETY APPLIANCES COMPANY
BRADDOCK, THOMAS & MEADE STREETS . . . PITTSBURGH, PA.
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M. S. A. Products include Breathing Apparatus . . . Inhalators . . . Comfo Respirators . . . Masks of all types . . . Gas Indicators . . . Gas Detectors . . . Safety Goggles . . . Protective Hats and Caps . . . Edison Electric Cap Lamps . . . Safety Clothing . . . First Aid Equipment. Descriptive Bulletins will be sent on request.

GOODALL FIRE HOSE

GOODALL FIRE HOSE is made to meet the most important demand in fire hose service . . . *maximum dependability.* Its reputation for long, reliable service is the result of the *quality* built into every length.

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MILLS: TRENTON, N. J.

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COMFORTABLE AS YOUR OLD FELT HAT: WON'T SHAKE OFF

Never go to a fire without the protection of a good helmet. It may save your life.

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The Sterling Vertical Siren gives the Volunteer Fire Department a siren combining every important feature a fire signal should have, namely:

1. Powerful and distinctive tone. 2. 100% weather-proof protection.

3. BALL BEARING MOTOR CAPABLE OF CARRYING 100% OVERLOAD.

4. Rigid, durable and unit construction. 5. Perfectly dynamically balanced rotor of aluminum. 6. Fast pickup—long roll. 7. Outside casing rustproof Armco Iron, 4 coats Red Duco.

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Sterling Siren Fire Alarm Co., Inc.
ROCHESTER, N. Y.

For ALL Burns!

KONK R-BURN

Try it now!

No Application Equipment! ● Always Instantly Available ● Simply Saturate Bandage ● Overdose Impossible ● No Skill Needed ● Pain Promptly Relieved ● No Sedative Used. Contains No Anesthetic or Opiate. Pin dollar bill to this ad—write name and address in margin—and mail to us. We will mail two generous 8 oz. bottles for trial use. Money refunded if not satisfied.

THE REMEDY CO., INC.
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WORLD'S GREATEST-SIMPLEST-SAFEST-BURN TREATMENT!

WHAT FIREMEN'S COAT

Is Made of Vanitex, the soft, flexible, long wearing, waterproof Material? Has the Famous Safety Snap that can be fastened and unfastened with one hand in a jiffy?

Was worn by the Firemen at Chicago's "Century of Progress"?

THE ANSWER IS

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Send for our free illustrated catalog showing complete line of our rubber and canvas garments. Satisfaction guaranteed.

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Fire Hydrants

Are given preference by so many fire protection and water works men because they know that more than half a century of experience goes into their manufacture and they embody valuable and exclusive features.

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LYNN, MASSACHUSETTS

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$24 Dozen
Sample: $2. postpaid

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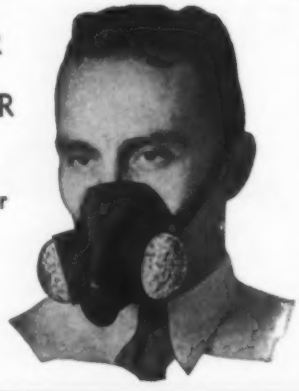
Station A
South Bend, Indiana



THE modern pumping engine has many advantages, including better and more powerful motors—better transmissions—better axles—four-wheel brakes—better engineering and, finally, better pumps—far better if it carries a Hale pump.

HALE FIRE PUMP CO., Inc.
CONSHOHOCKEN, PA.

SOOT BLAST
Puts out chimney fires

Repeat orders prove its value!

5 minutes and a package of SOOT-BLAST, sprinkled over flames at base of chimney, will put out any chimney fire.

Try a case and see!

$4.50
per case 12-26 oz. packages
100-lb. bags $12.50

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As a reader of FIRE ENGINEERING you are entitled to our buyers' information service free of cost. Here is how it works.

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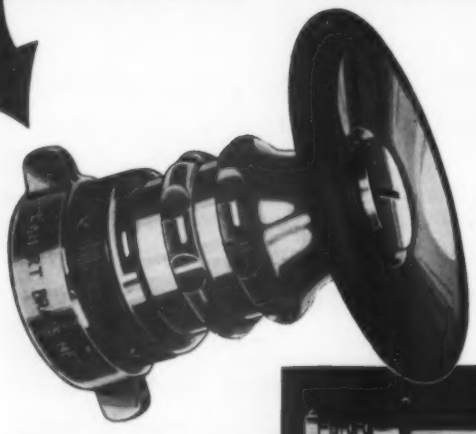
NOTE: The more specific you can be in detailing the items you are interested in, the more specific we can be in having the correct information sent you.

6-37

Insist ON THE ELKHART Mystery FOG NOZZLE



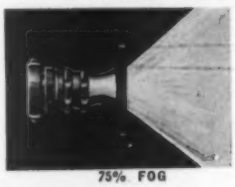
BECAUSE

It does more than they expected.

Skeptical, at first, Fire Engineers all over the country, become enthusiastic at the first demonstration of the New Elkhart Mystery Nozzle.

Trial orders, then repeat orders for all sizes of nozzles are coming in daily.

STREAM



75% FOG

WATER CURTAIN

THE MYSTERY NOZZLE IS ACCEPTED

Write or wire for YOUR demonstration.

AND NOW

The same Mystery Nozzle adapted for direct attachment to 2½" hose. No play pipe necessary.

Send for this illustrated folder and prices.

ELKHART BRASS MFG CO
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YOUR JOB AND OURS, CHIEF, HAVE ALWAYS BEEN PRETTY MUCH ALIKE

WE'VE both been doing only one thing most of our lives. You've been fighting fires, we've been making fire hose. . . . .

IN THIS PLANT WE DO ONE THING

but we do that exceptionally well. Having originated and spent a lifetime in making wax and para gum treated hose, we know that the hose you get from this plant will give you more service than you would ever expect. Just try it—prove it to yourself.

Chances are both of us know our jobs well. Think of that the next time you buy fire hose. Remember, too, that for years we've been treating the yarn in our hose with wax and para gum to make it last longer. It keeps hose free from mildew, waterproofs it, too. But, don't take our word for it—try a few lengths of it next time you order hose. You'll never buy anything but Fabric after trying it—that's what a lot of chiefs tell us.

WAX AND PARA GUM TREATED

FABRIC FIRE HOSE

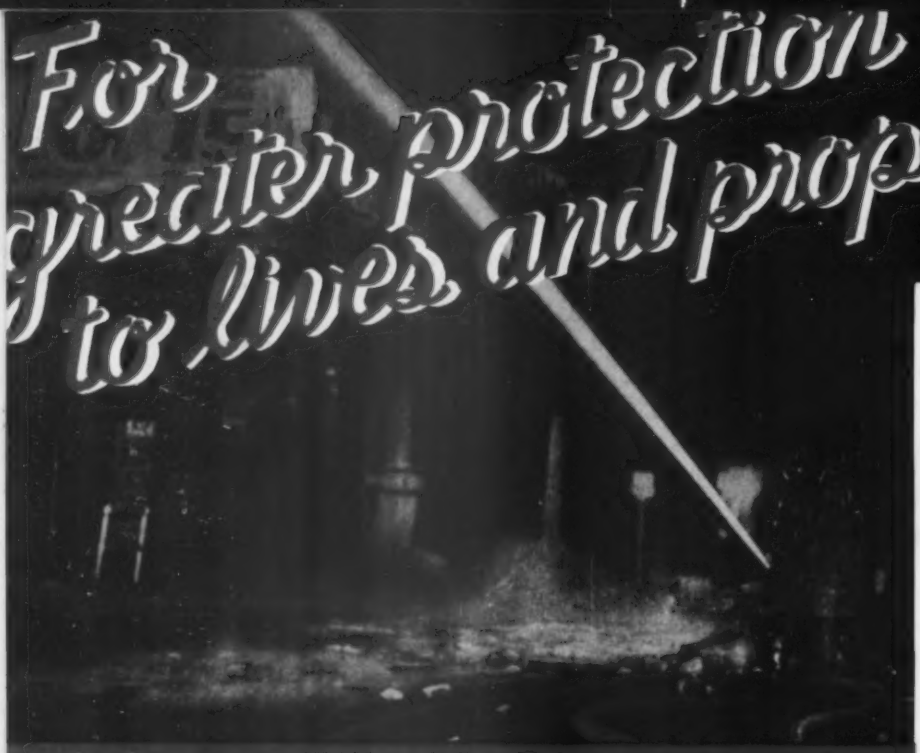
The Sole Product of

FABRIC FIRE HOSE COMPANY

SANDY HOOK, CONN.

We shall appreciate your mentioning FIRE ENGINEERING *when writing advertisers*

For greater protection to lives and property



SPECIFY EUREKA *Streamlined* FIRE HOSE

Multiple Woven construction of Eureka "Streamlined" Fire Hose makes the hose stronger, safer to handle, more dependable in action. The fabric is made circular and each cord is woven into the fabric under uniform suspended weight tension. All plies are bound together into one solid homogeneous fabric by one operation of the loom instead of being separate, as in loose-jacketed hose.

Be Sure of your fire hose

Be Sure that it will stand up under all conditions of service—that it will protect the lives of your firemen and the lives and homes of the people in your community, and lastly, be sure that it's Eureka.

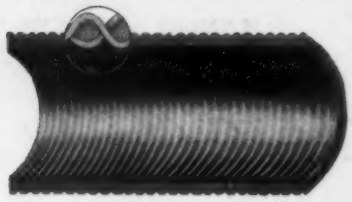
Eureka, with the most complete line of quality fire hose ever made and over 60 years of manufacturing experience, is the largest producer of fire hose in the country. You will be sure, and safe with Eureka.

Call in a Eureka Representative and let him know your hose needs.

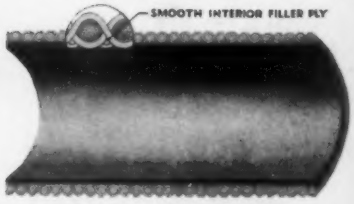
EUREKA FIRE HOSE

Division of United States Rubber Products, Inc

1790 BROADWAY NEW YORK, N. Y.



• In the ordinary type of fire hose there is no Smooth-Interior Filler-Ply to fill the valleys in the weave of the inner jacket. As a result, when the hose is subjected to hydraulic pressure, the rubber lining is forced back into these valleys, giving the interior of the hose a corrugated or "washboarded" waterway. The "wash board" condition causes excessive friction loss.



• The Smooth-Interior Filler-Ply is an exclusive Eureka development. An individual set of warp and weft cords completely fills the valleys of the inner jacket, making the surface of that jacket perfectly smooth and level. There are no valleys into which the rubber lining can recede when hydraulic pressure is applied. In Eureka "Streamline" Fire Hose you are always sure of a smooth waterway and a minimum of friction loss.

• Eureka *new* and *better* rubber lining with improved lap-seam . . . 4 plies of specially developed long-lived rubber . . . calendered into one homogeneous body proved far superior by the Bomb Test—a scientific method of predetermining the aging characteristics of rubber goods.

• All Fabrics used in the different brands of Eureka Fire Hose are antiseptically treated to prevent the formation of mildew and rot. The exclusive mildew repellent solution used does not add to the weight of the hose nor make the hose hard to handle.